MINIMIZING COORDINATION PROBLEMS BETWEEN THE JFACC AND JFLCC IN THE COORDINATION OF JOINT FIRES BETWEEN THE FSCL AND LAND COMPONENT FORWARD BOUNDARY

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This thesis discusses the coordination problems which arise between the Joint Force Air Component Commander (JFACC) and the Joint Force Land Component Commander (JFLCC) when trying to employ fires between the fire support coordination line (FSCL) and the land component forward boundary. This is due to the JFLCC being the supported commander within this area of the battlefield, though the JFACC actually has the preponderance of capabilities for employing fires. Joint doctrine explicitly states that the FSCL is a permissive measure. However, coordination with other affected commanders is required when employing fires to prevent duplication of targets, as well as fratricide. Joint doctrine provides great latitude to joint force commanders to establish command and control relationships and employ appropriate coordination measures to ensure effective coordination. This thesis concludes that the FSCL must be treated as a permissive measure, just as defined in joint doctrine. Though the JFLCC is the supported commander, the JFACC should be appointed the Coordinating Authority for fires beyond the FSCL due to his capabilities to both acquire targets and employ fires. The JFLCC best retains his influence in shaping the battlefield beyond the FSCL by providing the JFACC mission-type orders, in addition to standard target nominations.

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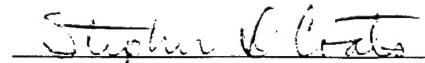

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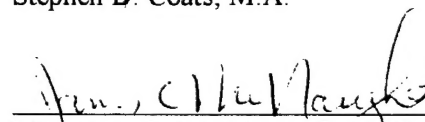

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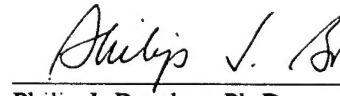

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ABSTRACT

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CHAPTER ONE

INTRODUCTION

> The nature of modern warfare demands that we fight as a team. The resulting team provides joint force commanders the ability to apply overwhelming force from different dimensions and directions to shock, disrupt, and defeat opponents. Effectively integrated joint forces expose no weak points or seams to enemy action, while they rapidly and efficiently find and attack enemy weak points. Joint warfare is essential to victory.[1]
>
> John E. Shalikashvili, JP 3-0, Doctrine for Joint Operations

Background. "Jointness" has become an inherent ingredient for all operations conducted by the US military within the last decade. Services can no longer afford to operate and fight independently, but must be integral members of the joint team. Two factors which have contributed to this emphasis on joint operations are declining fiscal resources and an evolving new world order. First, the declining fiscal resources available has caused the US military to make significant reductions in manpower levels. A second result of this decline in fiscal resources has been less money available for expenditures on new weapon systems.[2] Simply put, America could no longer afford the large force built during the Reagan administration. The evolving world order has changed the threat faced by the US military.[3] With the breakup of the Soviet Union, the US no longer must focus its military strategy on the NATO-Warsaw Pact conflict of central Europe. Instead, the US military must be prepared to face multiple types of threats anywhere in the world. The variance of these threats is illustrated by the US's recent involvement in conflicts in Kuwait, Somalia, and Bosnia.

Combined, declining fiscal resources and a changing threat have challenged America's senior leaders to explore new avenues for maximizing the synergy required for joint operations. These senior leaders' efforts have resulted in an extensive library of joint publications (JPs) being produced which define how to fight in a joint environment. One objective of these joint publications is to establish doctrine on how to integrate and synchronize joint fires. Joint fires are "fires performed with capabilities/forces made available by components in support of the joint force commander's operation or campaign objectives, or in support of other components of the joint force." [4]

Synchronizing joint fires is critical to the integration of air operations with ground operations. The importance of this integration of air with ground is not new to the US military. One can see this by looking back at World War II. In Operation Cobra, codename for the breakout from Normandy, air interdiction was to play a key role in preventing German forces from reinforcing their defenses in the area. This interdiction of forces was essential to the Allied ground scheme of maneuver. While somewhat successful in reducing German defenses, poor coordination between ground and air commanders resulted in over 600 friendly casualties due to fratricide from Allied aircraft.[5] The importance of coordinating air operations with ground operations was reinforced during the Korean conflict. Lieutenant General Walton Walker, commander of the US Eighth Army in Korea, stated, "If it had not been for the air support we received from the Fifth Air Force, we should not have been able to stay in Korea."[6] Armed with this knowledge that the US Military has long known the importance of coordinated air and ground operations and their associated joint fires, one would assume that joint doctrine would clearly define tactics, techniques, and procedures (TTP) for this integration. In analysis, this is not necessarily true.

As recently as as 1994, one can find formal high-level efforts to resolve problems with integrating and synchronizing joint fires. In that year, the Army and Air Force Chiefs of Staff

assigned General officer-level workgroups to address this problem, as well as several other important operational issues. In particular, the operational fires workgroup was tasked to examine the "apparent friction over which component commanders should plan and control deep operations beyond fire support coordination lines."[7] These joint workgroups have been attempting to "synchronize interdiction and maneuver as complementary operations rather than separate operations," a goal General Colin Powell expressed when he was Chairman of the Joint Chiefs of Staff (CJCS).[8] These work groups have continued their work through the present, with the key product being a joint message issued by the chiefs of staff of both services in 1996. I will discuss this message in detail in chapter four. The intent of this thesis is to contribute to answering the question about how best to coordinate the joint fires associated with integrating air operations and ground operations beyond the FSCL to provide the greatest synergy in joint operations.

Thesis. The thesis question is, How can the JFC minimize coordination problems between JFACC and JFLCC in the employment of joint fires *beyond the fire support coordination line (FSCL) (emphasis mine)?* As I will attempt to prove in the rest of this thesis, the best answer by strictly applying the coordination requirements outlined in Joint Publication 3-09, Doctrine for Joint Fire Support (JP 3-09) with the Joint Force Air Component Commander (JFACC) as the coordinating authority receiving mission-type orders from the Joint Force Land Component Commander (JFLCC) explaining his desired effects.

To begin attacking the thesis question, the battlefield framework must first be discussed. "Battlefield framework" is an Army term, and is defined as those measures which establish geographical and operational responsibilities for affected commanders.[9] While battlefield framework usually divides the battlefield into three distinct fights, deep, close, and rear, this thesis will focus only on the deep operations. Though joint doctrine provides no definition, Army doctrine defines deep operations as "operations designed in depth to secure advantages in later

engagements, protect the current close fight, and defeat the enemy more rapidly by denying freedom of action and disrupting or destroying the coherence and tempo of its operations."[10] This thesis will focus on the Army's perspective of deep operations which occur between the FSCL and the JFLCC's Area of Operations (AO) forward boundary. To identify the best possible coordination process between the JFACC and the JFLCC, an analysis must be made of fire support coordination measures (FSCM) and command relationships. The expression "beyond the FSCL" is extremely important in limiting the scope of the discussion. Traditionally, the FSCL was used to delineate deep battle responsibilities. The land forces conducted its deep battle short of the FSCL, while the air component conducted its deep battle beyond the FSCL.[11] The only joint fires which required coordination were land component weapon systems such as the Pershing and Lance missiles. Because the services generally agreed that the Air Force controlled fires employed beyond the FSCL during that time, the Army had to closely coordinate these with the Air Force prior to execution.[12]

However, capabilities within the services have changed greatly within the last two decades. The Army now has weapons systems such as advanced attack helicopters, long-range rocket artillery, and the Army Tactical Missile System (ATACMS). Weapons such as these have given the JFLCC significantly greater capability to employ fires throughout the depth of the battlefield.[13] Because of this increased capability, the deep battle delineation has become "muddied." The area beyond the FSCL inside the JFLCC AO is the part of the battlefield that is causing the apparent friction between the Components.[14] (See Fig 1.)

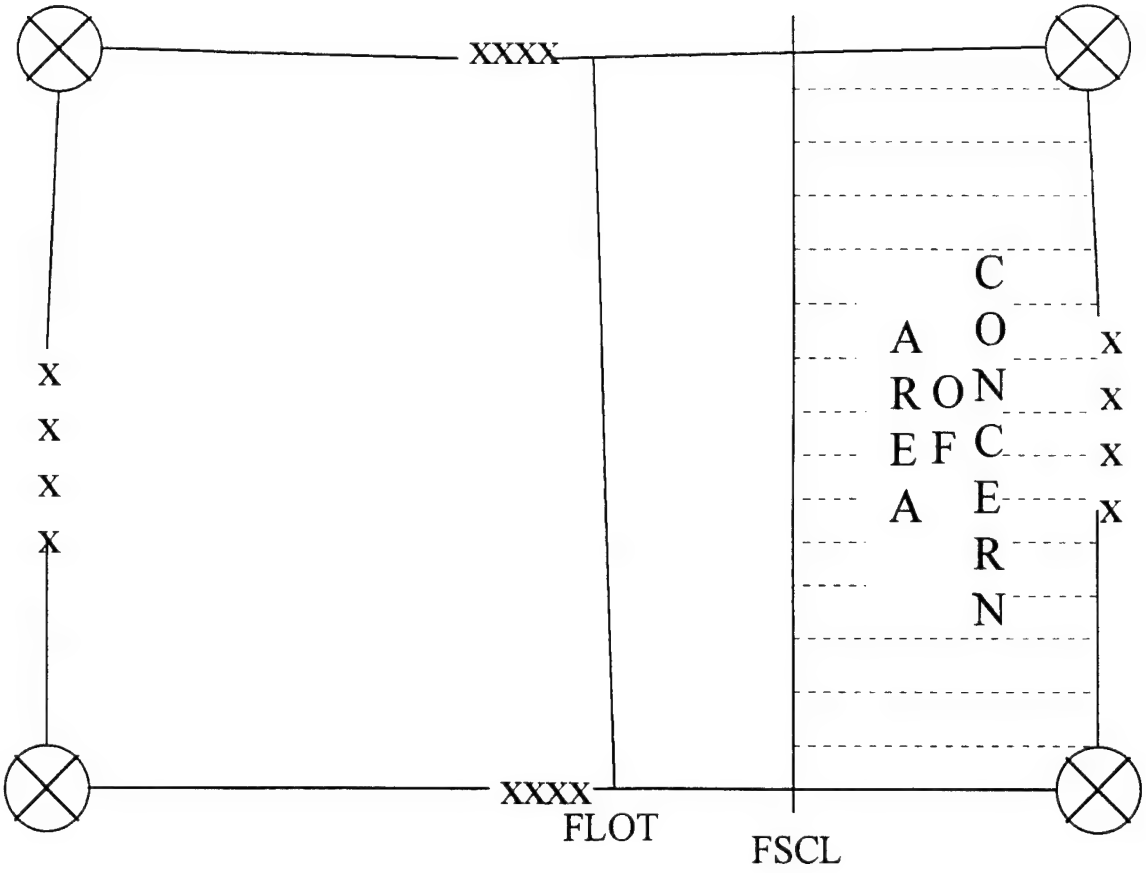

Figure 1. Area of Concern. Source: Typical linear battlefield based on author's experience working in both Army and joint exercises.

To answer the primary question, I must first answer three subordinate questions.

First Subordinate Question. The first subordinate question to be answered is, What procedures does current joint doctrine prescribe to coordinate joint fires beyond the FSCL? To answer this question, one must first go to JP 3-0, Doctrine for Joint Operations. "This is the keystone document for the joint operations series, and provides the fundamental principles and doctrine for the conduct of joint and combined operations."[15] Chapter two of this publication, "Fundamentals of Joint Operations," provides a general description of the Joint Force Commander's (JFC) role.

A JFC is the combatant commander, subunified commander, or joint task force commander authorized to exercise combatant command or operational control over a joint force.[16] He is charged with synchronizing the actions of all joint forces assigned to his command to achieve strategic and operational objectives. Joint doctrine purposefully provides wide latitude for the JFC to achieve this task. It specifically directs him to "seek combinations of forces and actions to achieve concentration in various dimensions, all culminating in attaining the assigned objectives in the shortest time possible, and with minimal casualties."[17] How does the JFC accomplish this? JP 3-0 discusses the JFC's use of mission-type orders, his establishment of key command and control relationships, and his use of coordination measures.

Mission-type orders are tasks provided to a subordinate unit that specify what is to be accomplished, but not how to do it.[18] JFCs issue mission-type order to provide subordinate commaders latitude in exercising initiative and creativity in accomplishing tasks.

JP 3-0 also states that JFCs define command relationships to support their overall concept of operations for mission accomplishment.[19] In defining these command relationships, service component commanders may be assigned as functional component commanders. These functional components provide centralized direction and control for forces of more than one Service which may have similar capabilities. It is important to remember that these functional components are not JFCs. They must execute all assigned responsibilities to support the JFC's intent, and contribute to achieving his objectives. The JFACC and JFLCC are two of these functional components.

The JFACC is appointed by and assigned specific duties by the JFC. These duties normally include, but are not limited to planning, coordination, allocation, and tasking for the joint air effort. He ensures unity of effort by the various air forces in the JFC's AO. The JFACC also normally recommends apportionment of air sorties to the JFC.[20] Air apportionment is the effort in

terms of percentage or priority of the air assets against various missions and/or geographic areas. Air interdiction is the mission that will be discussed extensively in this thesis. JP 1-02, Department of Defense Dictionary of Military and Associated Terms, defines air interdiction as follows:

> Air operations conducted to destroy, neutralize, or delay the enemy's military potential before it can be brought to bear effectively against friendly forces at such distance from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required.[21]

Additionally, the JFACC issues the Air Tasking Order (ATO), which tasks the multiservice air forces available to perform the missions required based on the JFC's intent and guidance. The JFLCC is also appointed by and assigned specific duties by the JFC. The JFLCC is normally the commander with the preponderance of ground forces who recommends employment and operational missions of land forces to the JFC for accomplishment of the JFC's overall mission. The JFLCC is given the authority necessary to coordinate land operations, and to accomplish the missions assigned by the JFC.[22] Other functional components normally assigned include the Joint Force Maritime Component Commander (JFMCC) and the Joint Force Special Operations Component Commander (JFSOC).

Before issuing mission-type orders and defining command relationships, JFCs must consider the fundamental elements of operational art. Operational art is the development of campaigns and operations based on strategic guidance and direction from the theater commander.[23] Though there are fourteen fundamental elements, there are three which are more critical to the discussion of coordinating joint fires, and therefore should be briefly discussed. These elements are synergy, simultaneity and depth, and anticipation.

Synergy is the positive effect created by combining the capabilities of air, land, sea, and special operations forces to achieve a decisive advantage over the enemy. This effect can only be attained if the operations of these joint forces are synchronized to ensure unity of effort. Attaining

the synergy created by the joint forces ensures that the JFC will present no seams or vulnerabilities for the enemy to exploit.[24]

Simultaneity and depth, while separate concepts, are part of the same fundamental of operational art. Simultaneity is "the simultaneous application of capability against the full array of enemy capabilities and sources of strength."[25] Basically stated, it means that all types of forces, such as ground and air, will conduct operations at the same time to achieve the greatest effect. Simultaneity contributes to the JFC's effort by creating more demands on an enemy's forces and functions than he has the capability to handle. Depth is the application of force across the full breadth and depth of the battlefield.[26] This again creates tremendous demands on the enemy commander. Depth also creates opportunities to overwhelm the enemy from multiple dimensions. Air interdiction is one of the primary methods the JFC uses to ensure depth of operations.

Anticipation is the built-in flexibility based on situational awareness to exploit unexpected opportunities.[27] The coordinating relationship between the JFACC and the JFLCC in employment of fires must have this fundamental element. This is especially important due to the dynamic nature of the modern battlefield.

These three fundamental elements of operational art significantly affect the coordination of joint fires. This is due to a common thread within these elements: the necessity for synchronization of all operations throughout the battlefield. Isolated actions by ground forces which are not coordinated and synchronized with the operations of air forces and special operations forces will not achieve maximum benefit for the JFC. In fact, when not properly coordinated, isolated operations by forces may actually be counterproductive, in effect providing the enemy commander an advantage. As this thesis is developed, we must continually keep these fundamentals of operational art must be continually considered to ensure their standards are met in the final analysis.

The other key elements that JP 3-0 addresses with relation to coordinating joint fires are control and coordinating measures. The two primary measures are boundaries and the fire support coordination line (FSCL). Boundaries are lines which define subordinate commanders' AOs. Lateral, rear, and forward boundaries are usually established to enable effective coordination and execution of operations, while protecting friendly forces.[28] The FSCL is defined as follows:

> A line established by the appropriate land or amphibious force commander to ensure coordination of fire not under the commander's control, but which may affect current tactical operations. The fire support coordination line is used to coordinate fires of air, ground, or sea weapons systems using any type of ammunition against surface targets. The fire support coordination line should follow well-defined terrain features. The establishment of the fire support coordination line must be coordinated with the appropriate tactical air commander and other supporting elements. Supporting elements may attack targets forward of the fire support coordination line without prior coordination with the land or amphibious force commander provided the attack will not produce adverse surface effects on or to the rear of the line. Attacks against surface targets behind this line must be coordinated with the appropriate land or amphibious force commander. Also called FSCL.[29]

On the surface, this seems to be an adequate definition and description. However, differences in interpretation become apparent in the application. The Army's Chief of Staff General Dennis Reimer has stated that, "Past problems between the Army and Air Force over the FSCL have been problems with coordination--not problems with the nature of the FSCL itself."[30] His comment is indicative of the Army view as a collective that the FSCL is merely a coordination problem. On the other hand, the Air Force views the FSCL as a control problem.[31] This is closely related to the two general, alternative interpretations of the FSCL. One interpretation is that the FSCL is permissive, while the other interpretation is that it is restrictive. The permissive interpretation is that the FSCL enables the attack of targets with less coordination, while the restrictive interpretation assumes an increased coordination requirement.[32] This variance can be traced to recent changes in the FSCL's definition.

As recently as 1984, Army FM 6-20, Fire Support described the FSCL as a permissive measure.[33] Permissive implies that no further coordination is required to attack targets beyond the

FSCL.[34] Conversely, restrictive implies that some degree of coordination is required. The current definition does confuse the matter somewhat, and can be construed to imply the latter, since coordination requirements are specified in the joint publications. This lack of clarity has contributed to friction between the services. For example, some senior leaders within the Air Force consider the Army and Marine Corps' interpretations of the FSCL as too permissive, in effect making the area beyond the FSCL a free-fire zone.[35] On the other hand, the two ground components feel handcuffed by the perceived Air Force interpretation that the FSCL is restrictive.[36]

The introduction of the Battlefield Coordination Detachment (BCD) was intended to be the joint "fix" for the required coordination. The BCD is an Army organization that colocates with the JFACC's Air Operations Center (AOC) to facilitate coordination and exchange of information.[37] This organization is intended to prevent unnecessary time delays in synchronization of fires throughout the depth of the battlefield. The BCD will be discussed in subsequent chapters in analyzing its effectiveness in coordination of fires between the JFLCC and the JFACC.

The current joint doctrine also must be analyzed by comparing its application by the JFCs within the various theaters. For example, Combined Forces Korea (CFK) uses a coordination measure called a Deep Battle Synchronization Line (DBSL) to coordinate fires.[38] The JFLCC employs fires in support of his deep battle short of the DBSL, while the JFACC employs all fires beyond the DBSL. In the US Central Command (CENTCOM), responsible for operations in Southwest Asia, there is no subsequent coordination measure beyond the FSCL. In fact, there is no forward boundary for the JFLCC.[39] While both functional components can employ fires beyond the FSCL, the JFACC can do so without coordination, whereas the JFLCC cannot. These different TTPs may be attributed to the overlap caused by the JFLCC being the supported commander for the area between the FSCL and his forward boundary, while the JFACC is the supported commander for interdiction, air defense, and missile defense (throughout the battlefield).[40] This

leads to the second subordinate question that must be answered in deciding upon how the JFACC and the JFLCC can most effectively coordinate fires beyond the FSCL.

Second Subordinate Question. The second subordinate question to be answered is, Who controls the area between the FSCL and the forward boundary of the land forces AO? While this seems a simple question on the surface, it is actually somewhat complicated. According to JP 1-02, to control an area is to exercise authority over activities of subordinates or other organizations within that area which may be less than full command.[41] Since the fundamentals of operational art already discussed are intended to prevent the enemy commander from finding sanctuary from friendly fires, the conclusion that some commander must exercise primary authority, or control this area of the battlefield can safely be drawn. As stated earlier, within the land forces AO, the JFLCC is the supported commander.[42] The definition of supported commander is "the commander having primary responsibility for all aspects of assigned tasks . . . the commander who prepares operations or plans in response to requirements."[43] So the JFLCC certainly has important responsibilities within this area.

What about the JFACC? As the supported commander for interdiction, air defense, and missile defense (throughout the battlefield), he also has key actions and tasks he must accomplish between the FSCL and land forces forward boundary. This fact that both the JFLCC and JFACC have operational responsibilities within this area denotes that this is shared "battlespace."

Battlespace, an Army doctrinal term, includes the breadth, depth, and heighth of area which a commander visualizes he will need to successfully defeat the enemy.[44] This is regardless of time. While shared battlespace by functional components is expected and, in fact, required to deny the enemy sanctuary, actions and fires within this area have to be coordinated and synchronized to ensure unity of effort. This requires the JFC to clearly delineate authority, or control.

Referring back to JP 3-0, the JFC normally delegates authority to conduct planning and coordination for executing targeting associated with the employment of joint fires to a functional component. Whoever is given this authority must have the command and control structure and the planning expertise to facilitate this process.[45] This publication does not specify which functional component receives this authority for the battlespace between the FSCL and land forces' forward boundary.

One possible method for solving this problem is to designate a "coordinating authority." The commander of Combined Forces Korea employs this method. His deep operations primer confirms that the JFLCC is the supported commander from the FSCL to the DBSL, but designates the JFACC as the coordinating authority.[46] A coordinating authority is one who "coordinates specific functions and activities involving forces of two or more services, functional components, or two or more forces of the same service. The coordinating authority can require consultation, but cannot compel agreement."[47] Of course, it must be pointed out that Combined Forces Korea is a multinational force, with associated political factors. However, political factors aside, this model does provide a possible solution for coordination of fires. It will be further analyzed in chapter four.

The question of who controls the area between the FSCL and land forces forward boundary does not have a simple, straightforward answer. The facts mentioned in the above discussion show why this area is important to both the JFACC and JFLCC. However, to ensure unity of effort of fires on this critical part of the battlefield, this issue must be resolved before main question of this thesis can be answered.

Third Subordinate Question. The third subordinate question to be answered is, How does the JFC ensure that joint fires employed beyond the FSCL support his ground concept of operations? One possible reason this question has arisen might be the disappearance of battlefield

air interdiction (BAI) from Air Force doctrine. BAI was the air support provided by the JFACC to the JFLCC to interdict forces with near-term effect on ground operations.[48] In effect, it was the interdiction sorties provided to the JFLCC and his subordinate commanders to direct against targets usually between the FSCL and land forces forward boundary. The employment of BAI went disappeared from Air Force doctrine with the onset of Desert Storm.

In planning for Desert Storm, Lieutenant General Charles Horner, Ninth Air Force Commander and designated JFACC, made the decision BAI would be rolled into the general air interdiction (AI) allocation. His reasoning was that since the JFC (and CINC), General Norman Schwarzkopf, was also the JFLCC, Lieutenant General Horner was in the best position to ensure the AI effort facilitated future ground operations.[49] After all, with one person dual-hatted as both JFC and JFLCC, the target priorities were one and the same. AI was conducted in this manner for the duration of the Desert Storm air campaign. Following Desert Storm, the Air Force subscribed to Horner's reasoning, and eliminated BAI from Air Force doctrine.

Did Lieutenant General Horner's methodology for AI fully support future ground operations? To answer this question, one must look beyond the JFC/JFLCC to the actions of the Third Army commander and his subordinate corps commanders. Throughout the campaign, these land force commanders provided target nominations to the JFACC to be attacked in the AI campaign. However, the land force commanders were not satisfied with the JFACC's effort to employ fires against these targets. In fact, the land force commanders felt that the JFACC focused too much effort on strategic targets.[50] This was at the expense of interdiction targets which would support future ground operations. The Army's response to this problem was a direct request to the CINC for help. The Third Army Commander Lieutenant General John Yeosock sent his Operations Officer Brigadier General Steve Arnold to request the CINC's help in ensuring the air campaign supported the future ground operations.[51] The Marines, also dissatisfied with the air

campaign, responded by retaining their F-18 Hornet fighter aircraft for their own missions.[52] These aircraft were not made available for JFACC employment. General Schwarzkopf, aware of the discontent by the Army and Marines, tasked his deputy CINC Lieutenant General Calvin Waller to provide oversight in ensuring the JFACC serviced the land forces' desired targets. This "honest broker" arrangement did not sit well with the JFACC, but was used for the remainder of the conflict as the JFCs method of ensuring his intent was being followed.[53]

This discussion of Desert Storm illustrates the need to answer this subordinate question. With the JFACC normally controlling the preponderance of capabilities for employment of fires beyond the FSCL, he can expect his actions to be scrutinized very closely by the other functional components and the JFC. Use of a Joint Targeting Coordination Board (JTCB) is one tool for the JFC to alleviate this scrutiny and to ensure operations being conducted by his joint forces are complementary. A JTCB is appointed by the JFC and reviews targeting information and priorities on a macro level for compliance with JFC guidance.[54] This board is also a forum for functional components and other components of the joint force to voice concerns and make coordination for the successful employment of fires. The JTCB also allows the components to view the overall fires plan to ensure unity of effort.

Other efforts are being made within the unified commands to ensure that JFACC employment of fires supports the ground concept of operations. For example, the Ninth Air Force commander (CENTCOM's JFACC) apportions his forces for three missions: (1) strategic attack (SA); (2) interdiction; and (3) close air support/air interdiction (CAS/AI). The JFLCC then directs exactly where on the battlefield the CAS/AI sorties will be employed.[55]

In retrospect, though BAI has disappeared from Air Force doctrine, the need to employ fires against targets with near-term effect on ground operations still exists. The task is to accomplish this in a manner such that the JFLCC (and other land force commanders) has

continuous input into the targeting process, while not preventing the JFACC from flexibility in employment of his resources. The JFC, as the senior commander, is ultimately responsible for this synchronization to ensure the required unity of effort and complementary operations.

Fourth Subordinate Question. This question is, What effect will the current ongoing advances in digitization have on coordination and employment of joint fires? Many military analysts argue that the U.S. military is currently undergoing a technological revolution in military affairs (RMA).[56] This RMA includes dramatic improvements in weapons technology, and in the integrative capabilities of communications and information systems.

Digitization is fuelling this RMA argument. Digitization is the concept of maximizing computer technology to enhance warfighting capabilities. The result of this RMA and digitization is a greatly increased emphasis on Information Operations. information operations (IO) are "the activities that gain information and knowledge, and improve friendly execution of operations, while denying an adversary similar capabilities by whatever means possible."[57]

The greatest benefit IO will have to the commander is increased situational awareness. Situational awareness (SA) includes a common understanding of the situation, combined with a clear picture of enemy and friendly dispositions and locations.[58] This relevant common picture will then facilitate battle command execution in a much more dynamic, effective manner to first stun the enemy, then rapidly defeat him in detail. Increased SA will also affect the execution of deep battle, and hence the employment of joint fires. The RMA improvements to the force will allow commanders to identify enemy targets at much greater ranges and with a higher degree of accuracy than ever before. This information will then be shared near real-time with all other commanders to maintain the relevant common picture. This capability, when paired with the corresponding increased SA, especially regarding the friendly situation, may force changes in joint fires coordination.

The US military has not yet written joint doctrine accounting for the increased emphasis on IO. However, because of the rapid and dramatic improvement in these capabilities, the possible impacts of these changes must be analyzed to ensure the relevance of this thesis.

Assumptions. There are two assumptions which have been made to support completion of this thesis.

First, the thesis will be written from the viewpoint of there being an appointed JFACC and JFLCC. Though JP 3-0 does not mandate these appointments, several recent major US military operations, such as Desert Storm, Just Cause, and Urgent Fury, have included these functional components. The role assignment as to which service will serve as the functional component is not relevant to the problem. After all, the Air Force, Navy, and Marine Corps all practice serving as JFACC during joint exercises, as do the Army and Marine Corps practice serving as JFLCC. Part of this assumption is that if the JFC is dual-hatted as the JFLCC, then there is another ground component commander (Deputy JFLCC, COMARFOR, COMMARFOR, etc.) with the delegated responsibilities to execute the ground campaign.

The second assumption is that the land forces AO will have a forward boundary. This will serve to limit the discussion on employment of fires to the area between the FSCL and the forward boundary. Though JP 3-0 does not mandate a forward boundary, it does suggest a finite land forces AO.

Definitions. Throughout this thesis, definitions to terms key to understanding the employment of joint fires have been provided. When possible, the joint definition has been used. The key document for joint definitions is JP 1-02, Department of Defense Dictionary of Military and Associated Terms. Care has been taken here to verify whether or not a more recent publication, such as JP 3.0, has a more current definition. When using a service component definition, this fact will be stated.

Delimitations. As stated earlier, this thesis has been confined to joint fires employed between the FSCL and the land component forward boundary. This is the area of greatest controversy in the employment of joint fires.

Research has also been confined to applications being used in the field to CENTCOM, CFC-Korea, and NATO. These models contain a wide variance in TTP, and also involve operations being conducted in three different types of terrain.

A third partial delimitation is that the majority of research has been focused on Army and Air Force doctrinal interpretation differences. While some discussion of Marine Corps TTP will be provided, the special nature of the Marine Corps force structure and its employment of the marine air-ground task force (MAGTF) makes it unique in its application of joint fires. The MAGTF commander, with his own supporting air assets and the latitude of the 1986 Omnibus Agreement, has significant internal capabilities in employing fires beyond the FSCL. Also, the Navy's TTP will not be analyzed due to the Navy's unique maritime capability.

The fourth delimiting factor is that placement of the FSCL will not be debated. While there is certainly disagreement on this issue, primarily due to the Air Force believing that the Army places the FSCL too far forward, thereby constraining airpower, the coordination requirements will be the same regardless of placement.

The next delimitation on the scope of this thesis is that the coordination required for a land force to employ fires across its boundary if the effects are beyond the FSCL will not be discussed. The Army and Marine Corps strongly disagree on this issue. The Army believes the coordination requirements are no different than for fires short of the FSCL, while the Marine Corps takes a much more permissive view.[58] Regardless, this contentious issue has no bearing on the JFACC-JFLCC coordination problem.

Due to the controversy surrounding this issue, there are a great number of good ideas in the joint community about how to coordinate and employ joint fires in a more efficient manner. Some of these ideas, such as those in the many monographs and theses written prior, recommend significant changes to current doctrine. While these ideas may have been conceived "out of the box," they have been analyzed with an open mind, with the results of this thesis not being constrained by current doctrine. This is the last delimitation.

Significance. In summary, coordination of fires by the joint components is critical to the US military's success on the battlefield. These fires must be applied simultaneously across the full depth of the AO and have a synergistic effect on the enemy. Additionally, the JFC must have the flexibility to employ fires to exploit unexpected opportunities, with the coordination required not being time intensive. While current doctrine provides some prescriptive guidance for the JFC in the employment of joint fires, the many articles in periodicals providing recommendations for changing the coordination requirements for joint fires beyond the FSCL substantiates the need for research on this issue.

To facilitate research into this issue, the following four subordinate questions to derive the answer to the thesis main question have been used: (1) What procedures does current joint doctrine prescribe to coordinate joint fires beyond the FSCL? (2) Who controls the area between the FSCL and the forward boundary of the land forces AO? (3) How does the JFC ensure that joint fires employed beyond the FSCL support his ground concept of operations? And (4) what effect will the current ongoing advances in digitization have on coordination and employment of joint fires? By building the research around answering these four subordinate questions, the best coordinating relationship between the JFACC and JFLCC to synchronize joint fires beyond the FSCL can then be defined. Some of the concepts in joint doctrine publications which are sources of friction between the services, and which cause confusion on the issue will also be identified.

[1]US Department of Defense, JP 1, Joint Warfare of the US Armed Services (Washington, DC: Office of Joint Chiefs of Staff, 1991), iii.

[2]GEN Dennis J. Reimer, USA, and GEN Ronald R. Fogleman, USAF, "Joint Warfare and the Army-Air Force Team," Joint Force Quarterly (Spring 1996): 10.

[3]This assertion is based upon a classroom discussion at the Command and General Staff College by Staff Group 5A. The topic of discussion was to determine why joint operations are so important in today's military.

[4]US Department of Defense, JP 3-09, Doctrine for Joint Fire Support (Proposed Final Coordination Draft) (Washington, DC: Office of Joint Chiefs of Staff, 1996), iii.

[5]Russell F. Weigley, Eisenhower's Lieutenants (Bloomington, IN: Indiana University Press, 1981), 9-10.

[6]MAJ Roger F. Kropf, "US Air Force in Korea--Problems That Hindered the Effectiveness of Air Power," Airpower Journal (Spring, 1990): 8-28.

[7]Reimer and Fogleman, 10.

[8]US Department of Defense, "A Doctrinal Statement of Selected Joint Operational Concepts" (Washington, DC: Office of the Joint Chiefs of Staff, 1992), 15.

[9]US Army, FM 100-5, Operations (Washington, DC: Department of the Army, 1993), 6-12.

[10]Ibid., GL-2.

[11]MAJ Robert F. Barry, USA, "Who's Zooming Who? Joint Doctrine and the Army-Air Force Debate Over the FSCL" (Monograph, CGSC, SAMS, 1994), 8.

[12]Ibid., 8.

[13]US Army, FM 100-7, Decisive Force: The Army in Theater Operations (Washington, DC: Department of the Army, 1995), 5-5.

[14]Reimer and Fogleman, 12.

[15]US Department of Defense, JP 3-0, Doctrine for Joint Operations (Washington, DC: Office of Joint Chiefs of Staff, 1995), i.

[16]US Department of Defense, JP 1-02, Department of Defense Dictionary of Military and Associated Terms (Washington, DC: Office of Joint Chiefs of Staff, 1994), 202.

[17]JP 3-0, III-9,10.

[18]Ibid., III-1.

[19]Ibid., III-1.

[20]Ibid., III-27.

[21]JP 1-02, 16.

[22]Ibid., 202.

[23]JP 3-0, III-9.

[24]Ibid., III-9.

[25]Ibid., III-11.

[26]Ibid., III-12.

[27]Ibid., III-12.

[28]Ibid., III-13.

[29]JP 3-09, C-3.

[30]MG Randall Rigby MG, USA, "The FA and Air Attack Team," Field Artillery (Fort Sill, Oklahoma: Department of the Army, May-June, 1996): 1.

[31]MAJ Steven R. Lanza, USA, "Permissive or Restrictive: Is There a Need for a Paradigm Shift in the Operational Use of the Fire Support Coordination Line?" (Monograph, CGSC, SAMS, 1994), 15.

[32]COL William S. Knightly, USA, "Integrating Joint Doctrine: The FSCL in the Lantican Theater of Operations," Military Review (Fort Leavenworth, KS: Department of the Army, July-August, 1996): 30.

[33]US Army, FM 6-20, Fire Support (Washington, DC: Department of the Army, 1984)

[34]US Army, FM 6-20, Fire Support in the Airland Battle (Washington, DC: Department of the Army, 1988) 3-6.

[35]COL Edward H. Houle, USAF, "JFACC--The Sequel," Marine Corps Gazette (May, 1993): 83-89.

[36]US Army, FM 6-20, Fire Support in the Airland Battle (Washington, DC: Department of the Army, 1988), 3-6.

[37]MAJ Robert J. Hamilton, USAF, "Green and Blue in the Wild Blue: An Examination of the Evolution of Army and Air Force Airpower Thinking and Doctrine Since the Vietnam War." (Thesis, School of Advanced Airpower Studies, 1993), xxix.

[38]Combined Forces Command-Korea, Deep Operations Primer--Korea, (Seoul, South Korea: Combined Forces Command-Korea, Operations Division, 1995), 10.

[39]This assertion is based upon my experiences as a Deep Operations planner at Third United States Army in 1995-1996. In this position, I participated in numerous CENTCOM joint exercises.

[40]JP 3-03, IV-3.

[41]JP 1-02, 90.

[42]JP 3-03, IV-3.

[43]JP 1-02, 368.

[44]US Army, FM 100-5, Operations (Washington, DC: Department of the Army, 1993), 6-12.

[45]JP 3-0, III-27.

[46]Combined Forces Command-Korea, Deep Operations Primer--Korea, (Seoul, South Korea: Combined Forces Command-Korea, Operations Division, 1995), 10.

[47]JP 1-02, 93.

[48]Lt Gen Merrill A. McPeak, USAF, "TACAIR Missions and the Fire Support Coordination Line," Air University Review (Maxwell Air Force Base, Alabama: September-October, 1985): 70.

[49]MAJ Michael J. McMahon, USA, "The Fire Support Coordination Line--A Concept Behind Its Times?" (Monograph, CGSC, SAMS, 1994) 17-20.

[50]Richard Atkinson, Crusade: The Untold Story of the Gulf War (New York: Houghton Mifflin Company, 1993), 218-220.

[51]Ibid., 220.

[52]Ibid., 219.

[53]Ibid., 221-222.

[54]JP 3-0, III-26.

[55]Third United States Army, "Deep Operations SOP" (Initial Draft), (Fort McPherson, GA: Third United States Army, Operations Division, 1996), 4-2.

[56]This assertion is based upon numerous briefings and discussions on Force XXI operations in A308, "Advanced Warfighting," the Mobile Strike Force class in CGSC, CTAC Department.

[57]US Army, FM 100-6, Information Operations, (Washington, DC: Department of the Army, 1996) 2-3.

[58]Ibid., 1-11.

CHAPTER TWO

LITERATURE REVIEW

The integration of operational fires is an essential ingredient in conducting successful joint operations. This assertion is universally accepted by the service components.[1] Therefore, it is not surprising that this issue is discussed in joint publications, service publications, and numerous articles found in military periodicals. Additionally, operational fires with respect to the FSCL has been the topic for several monographs and theses written at service staff colleges. A review of these publications provides substantial support that the thesis question is an open issue, with several schools of thought among different aGeneralcies and individuals. These publications also provide sufficient facts and opinions to support the research required to answer the thesis question.

The basis of joint doctrine is the joint publication library. Most of these publications have been revised since 1990 because of the increased emphasis on joint operations. It is important to note that the guidance in joint publications is now authoritative, and will be followed "except when, in the judgment of the commander, exceptional circumstances dictate otherwise."[2]

Joint Publications

The baseline document for conducting joint operations, JP 3.0, Doctrine for Joint Operations, is dated 1 February 1995. This publication discusses the fundamentals of planning joint operations and provides a General description of the roles of the JFC, JFACC, and JFLCC. Chapter III is is very relevant to this thesis, as it provides an in-depth discussion of the command relationships and coordinating measures JFCs employ in joint operations. This chapter provides

the JFC maximum flexibility by using the term "may" in several important instances, such as "may establish functional components" and "may establish a JTCB." While this flexibility for the JFC is important due to the wide range of possible scenarios, it is this noncommittal language that is partially responsible for the current disagreements in the joint community over the employment of joint fires. Nevertheless, this document is the starting point for understanding current joint doctrine.[3]

JP 3-09, "Doctrine for Joint Fire Support (Proposed Final Coordinating Draft)," is a controversial publication which provides information relevant to this thesis on the employment of fire support in joint operations. It is controversial because the Army and the Air Force have debated the exact wording of this publication for several years, with no consensus yet reached.[4] This document states that joint fire support includes "those fires that assist land and amphibious commanders to maneuver, and control territory, populations, and key waters," and is a subset of joint fires. JP 3.09 is important to completing this thesis because it provides the most in-depth discussion of the FSCL uncovered in this research. It also is the first joint publication to recognize the concept of "battlespace," up until now only an Army doctrinal term.[5]

JP 3-03, Doctrine for Joint Interdiction Operations, is also an important source for this research. It provides a thorough discussion of the fundamentals and the conditions for successful interdiction operations across the battlefield.[6]

JP 3-56.1, Command and Control of Joint Air Operations, discusses the nature of, and provides General considerations for command and control of joint air operations. This document is relevant to this thesis due to its in-depth discussion of the JFACC's functions and responsibilities within the framework of a joint force.[7]

"A Doctrinal Statement of Selected Joint Operational Concepts" is supplemental guidance to joint doctrine that General Colin Powell, then CJCS, issued in 1992. This document contains a

section titled "Synchronizing Maneuver and Interdiction" which discusses the importance of making ground maneuver and interdiction complementary to ensure denial of sanctuary for the enemy. Though no new concepts not already contained in JP 3-0 are introduced, General Powell reinforces the role of the JFLCC as the supported commander throughout his entire AO and that all interdiction efforts must support his vision of maneuver operations. With regard to the FSCL, he states that this measure "allows the land force and supporting forces to attack expeditiously targets of opportunity beyond the FSCL." This publication is relevant to this thesis as it supports the definition and understanding of current joint doctrine.[8]

Unified Command Publications

Three other publications produced by unified commands or their subunified commands serve as sources for illustrating how joint doctrine is being executed with regard to the employment of joint fires beyond the FSCL.

USCENTCOM Regulation 525-1, Warfighting Instructions, provides the basic methodology for conducting operations in the CENTCOM area of responsibility (AOR). Chapter II provides a General description of the roles and responsibilities of the JFACC and Deputy JFLCC. Chapter III includes an interesting statement relevant to the employment of joint fires. All indirect fires over the FSCL will be cleared, 100% of the time, through the tactical air control system. This statement is underlined in the publication for emphasis, and truly makes the FSCL a restrictive measure for land forces. This chapter also includes a detailed description of the JTCB, with sample briefing slides. This JTCB discussion clearly shows how CINCCENT attempts to ensure all functional components stay within his intent in the conduct of operations, and is the best discussion of this board found during this research.[9]

Deep Operations Primer--Korea outlines theater-specific procedures and responsibilities for planning, synchronizing, and executing deep operations in the Korean theater. Chapter II discusses the responsibilities of the functional components, and specifically tasked the JFACC (known as CACC in CFC-Korea) to "synchronize and integrate all air operations and fires beyond the FSCL." This is not in compliance with joint doctrine, which states this responsibility lies with the supported commander (JFLCC). Chapter IV provides an in-depth discussion of the JTCB (CTB in CFC-Korea), which is significantly different from CENTCOM's model. Chapter VI discusses fire support coordination measures, to include the DBSL. This nondoctrinal measure appears to be CFC-Korea's attempt to minimize the area between the FSCL and forward boundary where coordination for fires can be misunderstood.[10]

NATO ATP-27C, Offensive Air Support Operations, is the procedures guide for employment of CAS and BAI in the NATO theater. This publication groups these types of missions together as "Offensive Air Support," and states their aim is to attack targets which will directly affect the course of the land battle. This publication is significant because NATO is the only command being researched for this thesis which conducts BAI missions. And while the standard definition and description of the FSCL are used, ATP-27C was perceived to be written on the basis of how best to support the ground commander.[11]

Service Publications

Service publications will be used to examine service interpretations of joint doctrine.

AFM 1-1, Basic Aerospace Doctrine of the United States Air Force, is the fundamental document of doctrine for the Air Force. However, this publication deals with the theory of aerospace power, and provides little information relevant to this thesis.[12]

As for joint fires, the "JFACC Primer," produced by the Deputy Chief of Staff, Plans and Operations, HQ, USAF, is the definitive service manual on joint doctrine. This publication discusses the role of the JFACC, his authority, and his relationships with other functional commanders. It also includes a brief synopsis of the JFACC's role in Operation Desert Storm. Perhaps the most interesting section in this publication is Chapter IV, "Differing Perspectives." This chapter identifies issues, and compares the "Airman's Perspective" versus the "Alternate Perspective" (read Ground Commander's Perspective). This comparison validates the differing views and interpretations of coordination requirements for employment of joint fires.[13]

FM 100-5, Operations, is the Army's baseline document for doctrine. This publication discusses the Army's role in joint operations, as well as the service view of battlefield framework. I referred to this publication to provide the Army's definition of deep operations, and its concept of battlespace.[14]

FM 100-7, Decisive Force: The Army in Theater Operations, provides the services's view of the operational level of war. The includes the concept of operational fires, and the roles of functional component commanders. In Chapter 5, operational fires are defined, followed by a discussion of how Army deep capabilities are integrated with Joint deep capabilities. It states specifically, "The senior army commander plans operational fires and synchronizes ground and air operational fires within his AO." This publication basically provides the Army's doctrine for employment of joint fires.[15]

"Joint Fire Support and Interdiction: Conduct of Operations Between the Fire Support Coordination Line and Forward Boundary" is a white paper by the US Army's Field Artillery School. This paper establishes the school's position on procedures for planning, coordinating, and executing joint fire support and interdiction, with a focus on the area between the FSCL and

forward boundary. With the Field Artillery School the Army's proponent for deep battle, this paper is the service's current thoughts and ideas on this important part of the battlefield.[16]

TRADOC Pamphlet 525-5, Force XXI Operations, is the Army Training and Doctrine Command's (TRADOC) vision of future land battle. This document discusses the future strategic environment, and how digitization will affect land operations in this environment. Chapter 3, "Future Land Operations," describes the current vision of knowledge-based warfare. It attempts to illustrate how increased SA will allow U.S. forces to move with greater agility, and employ precision munitions more rapidly and effectively. It, in essence, defines the environment under which joint fires must be employed in the future. This description of the future knowledge-based warfare environment will be used to analyze its effects on coordination of joint fires, and to answer the question of whether or not an all-new paradigm may be required/enabled.[17]

"Land Combat in the 21st Centure" is a TRADOC white paper which describes the process the Army is using to learn how to fight knowledge-based warfare. This document has utility to this thesis because it introduces the patterns of operations for Force XXI. It also identifies concepts, enablers, and technologies which will support these patterns of operations. Two of the patterns, shaping the battlespace and decisive operations, are directly related to the employment of joint fires. The concepts within these patterns will be analyzed to identify their effects on coordination of joint fires.[18]

FMFM 6-18, Techniques and Procedures for Fire Support Coordination, provides a general understanding of U.S. Marine Corps doctrine with respect to employment of joint fire support beyond the FSCL. It describes the interaction between the ground combat element (GCE) and air combat element (ACE) in synchronizing maneuver and fires. This model, so successfully employed by the Marines, will be analyzed for TTP which can be applied to the JFLCC-JFACC relationship in coordinating joint fires.[19]

The "Tait Report" is a Desert Shield/Desert Storm after action report produced by a special study group chaired by Major General Thomas Tait. Volume III of this report is "Operational Fires." I found two relevant observations in this volume. First, the group recommends incorporating the RIPL into joint doctrine. Its purpose would be to serve as a dividing line between corps and echelons above corps (EAC) deep operations responsibilities.[20]

Periodicals

Another source for analysis of current doctrine and proposed alternative solutions used during the development of this thesis are the abundance of articles in periodicals. These periodicals include joint publications, such as Joint Force Quarterly and Parameters, and service publications, such as Airpower Journal, Field Artillery, USAF Fighter Weapons Review, and Marine Corps Gazette. The critical element here is that the articles in these periodicals represent the uninhibited views of officers from throughout the services, and support a substantive, subjective, nonparochial approach to research. Perhaps the best of these articles to clearly capture the coordination problems of employing joint fires is "Integrating Joint Doctrine: The FSCL in the Lantican Theater of Operations." This article, by COL William S. Knightly, USA, describes the processes used to clearly define JFACC and JFLCC roles and responsibilities with respect to joint fires in Prairie Warrior 1996, the U.S. Army Command and General Staff College's annual capstone exercise.[21]

Monographs and Theses

The many monographs and theses written in the recent past on the topic of employment of joint fires beyond the FSCL, as well as their associated bibliographies, provided detailed ideas for analysis, in addition to research sources. Five School of Advanced Military Studies (SAMS)

monographs, a thesis written by an Army Command and General Staff student,as well as three theses written at sister service schools provide detailed analysis on the FSCL and its role today.

"Who's Zooming Who? Joint Doctrine and the Army--Air Force Debate Over the FSCL", written by Major Robert F. Barry II, proposes replacing the FSCL with a "Air Ground Coordination Line" (AGCL). The JFLCC would control all maneuver, fires, and interdiction short of the AGCL, while the JFACC would have the same control responsibilities beyond the AGCL.[22]

"The Fire Support Coordination Line--A Concept Behind Its Times?", written by Major Michael J. McMahon, proposes eliminating the FSCL and using a combination of boundaries, other fire support coordinating measures, and an all-inclusive integrated tasking order (ITO) to employ joint fires.[23]

"Permissive or Restrictive: Is There a Need for a Paradigm Shift in the Operational Use of the Fire Support Coordination Line?", written by Major Steven R. Lanza, recommends redefining the FSCL. The new definition must be agreed upon by all services, and leave no doubt as to the doctrinal purpose of the FSCL.[24]

"The Fire Support Coordination Line: Should It Delineate Area Responsibilities Between Air and Ground Commanders?", written by Major Lester C. Jauron, proposes eliminating the FSCL, and replacing it with an operational interdiction line (OIL) and a tactical interdiction line (TIL). This methodology breaks the battlefield up into three sections, with different coordination requirements to employ fires in each section.[25]

"Unity of Command and Interdiction," written by Colonel Daniel P. Leaf, US Air Force (USAF), provides an in-depth analysis of the coordination architecture used for planning and executing interdiction during Operation Desert Storm. Colonel Leaf proposes that the friction between the services over joint fires beyond the FSCL is due to the Army's outmoded thinking and its lack of trust in the Air Force's ability to perform interdiction based on joint interests, and not

service interests. He proposed fixing the problem by reeducating the Army, and building a renewed trust between the two services. This thesis is the perfect example of a parochial view, but has some interesting recommendations on eliminating apportionment, allocation, and the JTCB.[26]

"Beyond the Fire Support Coordination . . .Controlling Chaos in the Deep Battlefield," by Lieutenant Commander Kim McEligot, US Navy, is a very objective view of the issue by a Naval officer. He asserts that there are six possible methods to coordinate the deep battle, and examines each based on two objectives, deconfliction and force application.[27]

"Ground Maneuver and Air Interdiction: A Matter of Mutual Support at the Operational Level of War," written by Major Jack B. Egginton, USAF, proposes that joint doctrine should be adjusted to make ground maneuver and air interdiction truly coequal, complementary operations. While current doctrine states that air interdiction supports ground maneuver, there are times where the reverse should happen. He also describes situations where he feels the JFACC should be the supported commander within the land forces AO.[28]

"The Fire Support Coordination Line: Is It Time to Reconsider Our Doctrine?" was written by Major David H. Zook III, and discusses and analyzes the used of the FSCL by VII Corps during Operation Desert Storm. VII Corps considered the FSCL restrictive in nature due to the JFACC's clearance requirements for indirect fires. Zook recommends the joint definition for FSCL be reworded to ensure it is treated as a permissive measure, with no possibility for interpretation variance.[28]

"Airland Battle Tactics: An Analysis of Doctrine and Experience" was written by Major C. William Robinson, and compares current Army and Air Force positions on the air/ground operations system. He states that the Air Force views interdiction as a single operation designed to accomplish the JFC's intent. The Army, on the other hand, views the JFC's intent as being accomplished by a series of decisive battles, with interdiction supporting victory in these battles.

Robinson concludes by recommending that the JFACC provide a subordinate air to ground battle commander to support the Army corps commander, similar to the tactical air command air-ground team employed in World War II. Included at the end of Robinson's monograph is a very interesting interview with General Frederick Franks, who provides an insight into his frustrations with the JFACC while serving as VII Corps commander during Operation Desert Storm.[30]

There are numerous other theses and monographs which discuss joint fires beyond the FSCL, and which provide potential changes in doctrine for clearer delineation in responsibilities. These documents were analyzed to ensure maximum advantage was taken to capture the results of prior research.

The Center for Army Lessons Learned (CALL) provided a folder of information on this thesis subject, which included lessons learned and after-action review comments from several previous exercises and operations. This included the "Tait Report," a lessons learned report on Operation Desert Storm.

Another source for insight and ideas were the senior officers available who have extensive experience in coordinating the employment of joint fires beyond the FSCL. These officers provided first-hand observations on JFACC-JFLCC coordinating relationships which have been effective in the past, as well as senior leader vision for the future with reference to the same subject. A joint perspective was attained by interviewing representatives from the Army, Air Force, and Marines.

In summary, a comprehensive review of available literature firmly supports that there is work to be done in resolving the issue of what the best coordinating relationship between the JFACC and the JFLCC is to synchronize joint fires beyond the FSCL. The fact that publications are available from throughout the joint spectrum also ensures that the problem can be analyzed

from a nonparochial viewpoint. The available literature, augmented with interviews with experienced senior officers, provides a solid basis for a substantive, research-based thesis.

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[1]This assertion is based upon my experiences as a Deep Operations planner at Third United States Army in 1995-1996. In this position, I participated in numerous CENTCOM joint exercises.

[2]US Department of Defense, JP 3-0, Doctrine for Joint Operations (Washington, DC: Office of Joint Chiefs of Staff, 1995), II-13 - II-18, III-9 - III-16, III-33 - III-35.

[3]Ibid.

[4]This assertion is based on discussions with LTC Anthony Painton, Chief of the Corps and Division Doctrine Division, CGSC. He has attended numerous joint doctrine conferences, and participated in many discussions about the concepts and exact wording in JP 3-09.

[5]US Department of Defense, JP 3-09, "Doctrine for Joint Fire Support (Proposed Final Coordination Draft)" (Washington, DC: Office of Joint Chiefs of Staff, 1996), C3-C7, GL-15.

[6]US Department of Defense, JP 3-03, Doctrine for Joint Interdiction Operations (Washington, DC: Office of Joint Chiefs of Staff, 1990), IV-1 - V-5.

[7]US Department of Defense, JP 3-56.1, Command and Control of Joint Air Operations (Washington, DC: Office of Joint Chiefs of Staff, 1995) , v-vii, II3, III3.

[8]US Department of Defense, "A Doctrinal Statement of Selected Joint Operational Concepts" (Washington, DC: Office of the Joint Chiefs of Staff, 1992), 14-18.

[9]US Central Command, CENTCOM Reg 525-5, Warfighting Instructions (McDill AFB, FL: US Central Command Operations Division, 1996), III-1 - III-4.

[10]Combined Forces Command-Korea, Deep Operations Primer--Korea (Seoul, South Korea: Combined Forces Command-Korea, Operations Division, 1995), 9-21.

[11]NATO, ATP-27C, Offensive Air Operations (Brussels, Belgium: NATO Hqs, 1995), 2-5 - 2-7, 3-1.

[12]US Air Force, AFM 1-1, Volume II, Basic Aerospace Doctrine of the United States Air Force (Washington, DC: Department of the Air Force, 1992), 161-172.

[13]US Air Force, JFACC Primer (Washington, DC: Department of the Air Force, 1994), 31-35.

[14]US Army, FM 100-5, Operations (Washington, DC: Department of the Army, 1993), 6-0 - 6-15.

[15]US Army, FM 100-7, Decisive Force: The Army in Theater Operations (Washington, DC: Department of the Army, 1995), 5-3 - 5-9.

[16]US Army, "Joint Fire Support and Interdiction: Conduct of Operations Between the Fire Support Coordination Line and Forward Boundary," White Paper (Ft. Sill, OK: US Army Field Artillery School, 1994), 18-28.

[17]US Army, TRADOC Pamphlet 525-5, Force XXI Operations (Washington, DC: Department of the Army, 1994), III-1 - III-4.

[18]US Army, "Land Combat in the 21st Century," White Paper (Washington, DC: Department of the Army, 1994), 12-20.

[19]US Marine Corps, FMFM 6-18, Techniques and Procedures for Fire Support Coordination (Washington, DC: Department of the Navy, 1992), 6-1 - 6-23.

[20]This information was extracted from the Tait Report, a Desert Shield/Desert Storm After Action Report prepared by a special study group. It is called the Tait Report after MG Thomas Tait, who headed the special study group.

[21]COL William S. Knightly, USA, "Integrating Joint Doctrine: The FSCL in the Lantican Theater of Operations," Military Review (Ft. Leavenworth, KS: Command and General Staff College, 1996): 30-33.

[22]MAJ Robert F. Barry II, USA, "Who's Zooming Who? Joint Doctrine and the Army-Air Force Debate Over the FSCL" (Monograph, CGSC, SAMS, 1994) 38-39.

[23]MAJ Michael J. McMahon, USA, "The Fire Support Coordination Line--A Concept Behind Its Times?" (Monograph, CGSC, SAMS, 1994) 39-41.

[24]MAJ Steven R. Lanza, USA, "Permissive or Restrictive: Is There a Need for a Paradigm Shift in the Operational Use of the Fire Support Coordination Line?" (Monograph, CGSC, SAMS, 1994), 40-42.

[25]MAJ Lester C. Jauron, USA, "The Fire Support Coordination Line: Should It Delineate Area Responsibilities Between Air and Ground Commanders?" (Monograph, CGSC, SAMS, 1993), 34-42.

[26]COL Daniel P. Leaf, USAF, "Unity of Command and Interdiction" (Monograph, Air War College, 1993), 97-104.

[27]LtCdr Kim McEligot, USN, "Beyond the Fire Support Coordination Line...Controlling Chaos in the Deep Battlefield" (Thesis, Naval War College, 1995), 5-14.

[28]MAJ Jack B. Egginton, USAF, "Ground Maneuver and Interdiction: A Matter of Mutual Support at the Operational Level of War" (Monograph, School of Advanced Airpower Studies, 1994), 31-37.

[29]MAJ David H. Zook, USA, "The Fire Support Coordination Line: Is It Time to Reconsider Our Doctrine?" (Thesis, Command and General Staff College, 1992), 99-165.

[30]MAJ C. William Robinson, USA, "Airland Battle Tactics: An Analysis of Doctrine and Experience" (Monograph, CGSC, SAMS, 1994), 35-47.

CHAPTER THREE

RESEARCH METHODOLOGY

As research for this thesis began, a methodology plan was decided upon that was sequential in nature, and ensured a logical flow from the definition of the problem to the research-based conclusions. The greatest challenge was to ensure a nonbiased, nonparochial approach since the problem is a joint issue, and not service-specific. To accomplish these objectives, I divided research in five main phases. These phases were: (1) Defining the Problem; (2) Defining Current Doctrine; (3) Analysis of Applications of Current Doctrine; (4) Analysis of Alternative Proposals; and (5) Developing Conclusions. These phases were researched in order, respectively, and provided the basic structure for completing the thesis.

Phase I: Defining the Problem. During this initial phase, extensive research was conducted of articles in military periodicals to ensure there is support for initial assumption that there is a potential problem with coordination of joint fires between the FSCL and land component forward boundary. Due to the rapid evolution in joint doctrine, the focus of research was on recent works (1990 to present) to ensure the comments and opinions expressed by the authors are still valid. Of particular interest were the articles which identified not only issues and problems, but provided potential "fixes" as well. This research concluded that there is definitely some disagreement among officers from the various components about what current doctrine calls for, and about the changes that should be made to current doctrine. Opinions based ran on service lines, with soldiers stressing the FSCL is permissive, while airman consider it restrictive. Articles

written by Marines were somewhat neutral in nature. This was not unexpected since the Marines employ the marine air-ground task force (MAGTF) concept. The fact that the Army and Air Force Chiefs of Staff are assigning General officer-level workgroups to discuss the issue is the most solid evidence that there is a problem to be solved with the employment of joint fires.

Extensive research was also conducted of unpublished theses and monographs during this initial research phase. These documents provided a wealth of information, especially with reference to other sources. The analysis and conclusions reached by other field grade soldiers and airmen helped to ensure analysis of the problem from several different perspectives, and also provided some "out of the box" potential solutions for consideration.

A search was also conducted for recently published books which discussed employment of joint fires. However, there were few sources available other than those books written about Operation Desert Storm.

Phase II: Defining Current Doctrine. The next step was to gain a clear understanding of current joint doctrine. The initial requirement was to establish what current joint doctrine prescribes before being able to analyze how it is being employed in the field, and identifying its potential shortcomings. The primary sources for this phase of research were joint publications and service field manuals. This phase was begun by studying JP 3.0. This document is the keystone for conducting joint operations, and provides the key fundamental and concepts the other joint publications must support. I then analyzed the other joint pubs relating to joint fires to get a more sound understanding of joint doctrine requirements in this issue.

By shifting from joint publications to service manuals, the interpretation differences between the services were identified, and potential sources of friction in employing joint fires between the FSCL and land component forward boundary discovered. With regard to the Army, this research was a simple task, since the Army is doctrine-intensive, with a large volume of field

manuals to support it. As for the Marines, most of their field manuals are geared to the MAGTF, so care was taken to draw the appropriate conclusions. However, the Air Force was more difficult to research since they have very few doctrinal manuals. Fortunately, the JFACC Primer presents a very in-depth discussion of the airman's perspective on employment of joint fires.

The opportunity was also taken during this phase to discuss joint doctrine with experienced senior officers available who are subject matter experts on the JFACC/JFLCC coordinating relationship with respect to joint fires. These discussions were very valuable in helping to see the joint fires issue from several different perspectives. Also, these officers provided guidance and recommendations for sources to use in completion of this thesis. Interviewees included: (1) Colonel Donald Olson, USA, Director, DJCO, former J3 Plans for CENTCOM; (2) Colonel Robert Hammerle, USA, Cdr, Arctic Support Bde, former Joint Doctrine Director, TRADOC; (3) Lieutenant Colonel Larry Brown, USMC, G3 Force Fires, I MEF; (4) Colonel R.W. Peterman, USAF, Chief, Air Force Element, USA Command and General Staff College; and (5) Lieutenant Colonel Robert Caspers, Chief, G3 Deep Operations, ARCENT.

Phase III: Analysis of Applications of Current Doctrine. This phase included the identification of the tactics, techniques, and procedures (TTP) that units "in the field" are employing to coordinate employment of joint fires. The focus of this research was narrowed by concentrating on three primary models: USCENTCOM in Southwest Asia, CFC-Korea in Korea, and EUCOM in Western Europe. These three commands were chosen because their areas of responsibility include the most likely hotspots for the next major regional conflict.[1] Also, the battlefields for these three commands represent very different types of terrain, to include the desert environment of Southwest Asia, the mountains and rice paddies of the Korean peninsula, and the rolling plains of central Europe.

The primary sources for this phase of research included standing operating procecures (SOPs) and major subordinate command (MSC) regulations. Secondary sources included articles in periodicals which describe procedures and/or issues in specific theaters. The TTP employed in these three commands was also discussed during conduct of the interviews, especially when the officer had served in one of the theaters. The intent during this phase was to capture the specific variances and idiosyncracies employed in coordinating joint fires that are not prescribed in joint doctrine. This provided the ability to analyze these TTP for effectiveness based on the tenets of operational art discussed in chapter one.

Phase IV: Analysis of Alternative Models and Proposals. This phase is the subjective analysis of selected proposed changes to doctrine which affect the employment of joint fires. The primary sources for this phase were articles in periodicals, lessons learned in the archives of the CALL and BCTP, and monographs and theses previously written. During this time, particular attention was given to searching out those good ideas and recommendations for change that were "out of the box." Also, staff officers in the unified commands were queried during Phase III (Analysis of Applications of Current Doctrine) of research for their observations based on experiences in coordinating joint fires. The end result of this phase of research was the conclusion that most authors favor some level of change in the definition and utility of the FSCL. Also, most favor changing the name from FSCL to some other nomenclature to shed the controversial "baggage" the FSCL carries with it.[2]

Phase V: Developing Conclusions. This phase was the natural follow-on to Analysis, and was the identification of the factors that support the thesis statement. Major effort was devoted during this phase to ensure there was supporting logic for the actions recommended. Though this phase was the capstone of all prior research conducted, the primary sources for developing the recommendations to change joint doctrine were the lessons learned in the archives of CALL and

BCTP, monographs and theses previously written on the subject, and the comments of senior officers who are subject matter experts. A final sanity check on these conclusions was conducted by discussing them with two senior subject matter experts on the coordination and employment of joint fires: Colonel Don Olson, Director of Joint and Combined Operations, CGSC (former Chief of J3 Contingency Planning at CENTCOM); and Colonel R.W. Peterman, Chief, Air Force Element, CGSC.

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[1]This assertion is based on professional discussions between the author and other military officers over the last five years (post-Desert Storm). The two major regional conflict (MRC) scenario, most Army officers seem to believe, includes Korea and Southwest Asia, correlating to CFC-Korea and CENTCOM, respectively. NATO was selected due to the current contingency in Bosnia-Hercegovina.

[2]This assertion is based upon the recommendations made in the numerous theses and monographs mentioned in the literature review.

CHAPTER FOUR

ANALYSIS

An in-depth analysis of the JFACC/JFLCC coordination relationship for joint fires requires an investigation of doctrine as currently written, researching its application in the field, and analyzing recommendations for changing the procedures for this process. Throughout this analysis, four tenets of operational art identified in chapter one will be used as criteria for measurement. Synergy, simultaneity and depth, and anticipation will be utilized as yardsticks to determine the positives and negatives of the various TTP to be discussed.

First, in analyzing joint doctrine, it must be stated up front that JP 3.0 provides the JFC wide latitude in defining his command relationships and in delegating responsibilities. This latitude is absolutely essential for the JFC to exercise effective battle command in conducting operations. The stated bottom line is that JFCs must accomplish these actions in a manner that will "synchronize the actions of air, land, sea, space, and special operations forces to achieve strategic and operational objectives through integrated, joint campaigns and major operations."[1] As stated previously, this thesis is written based on the assumption that a JFACC and a JFLCC will be appointed for operations. Though JP 3.0 does not mandate these appointments, it is the rule as supported by SOPs for CENTCOM, CFC-Korea, and EUCOM.[2] Three concepts which basically define doctrine for employment of joint fires will now be discussed. These concepts are the FSCL, a designated "supported commander", and the "coordinating authority."

FSCL. The FSCL appeared in doctrine for the first time in 1961. It was defined then as:

> A no-fire line between corps and higher echelons and a bomb line for ground and air forces. An FSCL may be established by the corps commander to ensure coordination of those fires delivered by forces not under the control of the corps which may affect current tactical operations. When possible, the FSCL should be easy to define on a map and easy to recognize from the air.[3]

In essence, this was a measure instituted to prevent fratricide while facilitating employment of fires against second echelon forces. It prevented ground units not under the corps commander's control from firing artillery short of the line, as well as aircraft from dropping bombs short of the line. Prior to 1961, U.S. forces used a "bomb line" as the measure to prevent aircraft from bombing friendly units. Aircraft could drop bombs without coordination beyond the line, but had to closely coordinate with ground forces to drop bombs short of the line.[4] In comparing the original bomb line and today's FSCL definition in chapter one, the intent is the same: to prevent fratricide while facilitating maximum employment of fires against the enemy.

FSCLs are permissive measures. JP 3.0 states this explicitly. Permissive implies that minimal coordination is required to attack targets beyond the FSCL.[5] Current doctrine states that this coordination includes informing "affected commanders in sufficient time to allow necessary reaction to avoid fratricide, both in the air and on the ground."[6] This brings up the following question: Who defines "sufficient time?" In deliberate, preplanned operations, such as attack helicopter deep attacks by the Army, direct action operations by special operations forces (SOF), and air interdiction missions by the Air Force, this is not an issue. These operations are usually planned and coordinated 24 to 48 hours before execution. However, the identification of time-sensitive targets on the battlefield, such as mobile Scud missile launchers, could present a problem. After all, time-sensitive targets require an immediate response because of either their danger to friendly forces or their rapid mobility.[7]

The employment of fires by air forces in such situations presents no problems. The JFACC usually diverts aircraft enroute to a lower priority target to the new target. As the airspace

coordinating authority (ACA), the JFACC coordinates the airspace deconfliction simultaneously with the mission change. The potential for fratricide is very low, and the benefits of destroying time-sensitive targets usually outweighs any potential adverse effects on, or to the rear of the FSCL, if there is any. Other than ensuring the target is not in an area where fires are prohibited (no-fire area) or restricted (restricted fire area), no coordination with the JFLCC is normally required.[8] In this situation, the FSCL is truly a permissive measure.

However, consider the option of employing fires from ground forces at the same type of target in the same part of the battlefield. Since the JFACC is the airspace coordinating authority (ACA), the JFLCC must coordinate employment of any fires,such as ATACMS or attack helicopters, to prevent the possibility of fratricide. The JFLCC (if Army) coordinates situations such as this through the BCD.

The BCD colocates with the JFACC's AOC and is tasked with expediting the information flow between the JFACC and JFLCC. Specific missions include facilitating the synchronization of air support for Army operations, interpreting the land battle situation for the JFACC, and ensuring the JFACC understands the JFLCC's concept of operations.[9] The BCD's role in the situation described above is to relay the JFLCC's intent to employ fires beyond the FSCL to the JFACC. The JFACC then can take the necessary actions to ensure his operations are deconflicted with the JFLCC's operations. The important point that should be brought out here is that the BCD is **informing** the JFACC of the JFLCC's planned operations. He is **not** requesting approval. So, in essence, both the JFACC and the JFLCC retain the freedom to employ fires beyond the FSCL without requesting approval from another functional component. (Of course, the JFC may retain some authority to employ specific fires at any location on the battlefield for himself.)

This highlights an area of fundamental disagreement in the joint community. The principal ground components, the Army and Marines, take a more permissive view of the FSCL. Since joint

doctrine states that the inability to conduct prior coordination does **not** preclude attack of targets beyond the FSCL in exceptional cases, the Army and Marines feel very strongly they have much latitude in employment of fires beyond the FSCL, with a requirement to **inform** the other components.[10]

The Air Force takes the more restrictive view. Usually the component with the preponderance of forces forward of the FSCL, the Air Force is very concerned with the potential for fratricide and does not buy into the "big sky, little bullet" theory.[11] Also, since the senior Air Force is usually the JFACC, he also may be appointed as the **coordinating authority** for employment of fires beyond the FSCL. As the coordinating authority, he is tasked with ensuring the fires of all the functional components are synchronized and deconflicted.[12] So not only is there a concern for fratricide, but the JFACC as coordinating authority is responsible for ensuring no duplication of effort in the employment of fires beyond the FSCL. However, joint doctrine states that he has no command authority in the matter and cannot compel agreement.[13] If there is disagreement between the JFACC and a functional component, then the matter is referred to the appointing authority, the JFC, for resolution.

The question of whether or not the FSCL is restrictive or permissive has become a little clearer based on the most recent Army-Air Force warfighter conference. In a follow-up joint message, these two chiefs of staff stated, "all targets forward of the FSCL and inside the SCC's (surface component commander) area of operations will be coordinated with all affected commanders to the maximum extent possible."[14] Based on the definitions of restrictive (specific coordination is required before engaging targets beyond the measure) and permissive (minimal coordination is required to engage targets beyond the measure), and the message's stated coordination requirements, the FSCL is now a **permissive** fire support coordination measure. The application requirements support this description regardless of what JP 3.0 says.

Now consider the fact that the JFLCC is the supported commander for operations out to the limits of the land AO. Therefore, he is responsible for preparing plans and orders to achieve the JFC's objectives on this part of the battlefield. The JFACC is a supporting commander and provides forces and other resources in support of the JFLCC to accomplish his objectives.[15] This relationship contributes to the differing interpretations of the FSCL's impact on joint fires employment. In one respect, the JFLCC is the supported commander out to his forward boundary, and therefore has responsibility to ensure synchronization of maneuver and fires throughout his AO. On the other hand, the JFACC is usually the coordinating authority and is responsible for coordinating and deconflicting fires between the FSCL and land component forward boundary. Therefore, there is a significant overlap perceived in this area. JP 3-0 provides one method to coordinate and synchronize fires between the functional components: a JFC-appointed JTCB.

The JFC assigns the role of the JTCB. Normally, JTCBs are comprised of representatives from each of the components and provide macro level oversight of targeting and the employment of fires. Typically, the JTCB "reviews target information, develops targeting guidance and priorities, and may prepare and refine joint target lists."[16] Also, a JTCB allows the JFC to ensure the operations of the separate components are complementary and contribute to his overall concept of operations. In other words, he verifies operational unity of effort through the JTCB.

From a functional component standpoint, the JTCB is a forum for information exchange. The representative can present the component's current situation, its planned operations, and the support required from other commands to accomplish the component's mission. For the JFLCC, the JTCB is the opportunity to ensure that the JFACC understands the ground scheme of maneuver. The JFACC can then verify his planned operations support the JFLCC's plans. It is also at the JTCB that apportionment is planned and discussed.

Apportionment is "the determination and assignment of the total expected effort by percentage and/or by priority that should be devoted to the various air operations and/or geographic areas for given period of time."[17] Apportionment is usually stated in terms of priority or percentage of effort dedicated to mission categories. These categories include strategic attack, interdiction, counterair, maritime support, and close air support. Apportionment must be approved by the JFC. By seeing the planned apportionment, along with the targets to be struck, the JFLCC gains an appreciation for the JFACC's potential effectiveness in supporting ground operations. If these effects are insufficient, the JTCB is the forum where the JFLCC can requests adjustments in the apportionment, as well as target changes. He can also coordinate employment of JFLCC assets beyond the FSCL with all other affected commanders.[18]

Desert Storm. On 2 August 1990, the military forces of the nation of Iraq invaded the state of Kuwait. Kuwait is one of the major oil producers in the region, as well as being one of the more moderate, pro-Western governments. US President George Bush quickly committed American military forces to defend Saudi Arabia should Iraq continue its attack south. Operation Desert Shield, as it was called, continued for six months as the Coalition rapidly built up an offensive-capable force.

On 17 January 1991 the US-led Coalition transitioned to Operation Desert Storm, the campaign to liberate Kuwait. This operation began with a 39-day air campaign designed to strategically cripple Iraq, while gradually attritting its ground forces. On 24 January, Coalition ground forces attacked north into both Kuwait and southeastern Iraq to liberate Kuwait and destroy Iraq's offensive warmaking capabilities. Operation Desert Storm provides an excellent basis for analyzing current joint doctrine in action. It was America's first opportunity to employ its high-tech weapons in a high-intensity environment. This included weapons used in deep operations such

as Apache attack helicopters and ATACMS. By all accounts, operational fires were a definite success story in Operation Desert Storm.

> Operational fires during Operation Desert Storm were critical to the overall success of the operation. ARCENT employed tactical aircraft, ATACMS, and Army aviation, as well as non-lethal fires to shape the battlefield. Despite some unanticipated problems, operational fires were successful in preparing the battlefield for offensive ground operations.[19]

The effectiveness of these joint fires employed throughout the depth of the battlefield no doubt also contributed to the rapidity with which the mission was accomplished. However, resounding success though it was, there were numerous coordination problems experienced in coordinating joint fires. Before identifying and analyzing these problems, the command relationships in Operation Desert Storm will be briefly outlined.

As stated in chapter one, General Norman Schwarzkopf, Commander-in-Chief of U.S. Central Command, served as JFC for the operation. He also retained the designation of JFLCC for himself, primarily for political considerations. These political considerations centered on the Arab Coalition ground forces being commanded by a Saudi four-star, with the U.S. needing a ground force commander of equal rank. However, U.S. Army Forces Central Command (ARCENT) actually conducted the planning, coordination, and execution of ground force operations for U.S. forces. The ARCENT commander, Lieutenant General John Yeosock, served therefore as de facto JFLCC. General Schwarzkopf appointed Lieutenant General Charles Horner, Ninth Air Force commander, as JFACC.[20]

Now, some of the issues which have been identified in after-action reviews and analyis as having caused problems during this highly successful operation will be examined.

The first problem was the variance in service component interpretation of the FSCL. During Desert Storm, the JFACC **required** coordination of all fires beyond the FSCL. This implied JFACC control over this part of the battlefield. Some in the Army Component (ARCENT)

headquarters perceived the JFACC was treating the FSCL as a de facto boundary.[21] This treatment of the FSCL was not in accordance with joint doctrine. Comments from the Army VII Corps Fires After-Action Review (AAR) illustrate the impact of this interpretation of the FSCL.

> Every fire mission or AH-64 attack beyond the FSCL had to be carefully and painstakingly cleared with the Air Force. Even counterfire required this lengthy process. Equally bad, air sorties beyond the FSCL were completely the domain of the Air Force.[22]

This shows that the FSCL was obviously very restrictive as far as Army, and hence JFLCC, employment of joint fires was concerned. The definition in effect for the FSCL at that time is very similiar to today's definition and was in no way meant to establish territorial jurisdiction for the JFACC. Neither was it meant in any way to restrict fires employed by the ground force commander.[23]

This treatment of the FSCL also was in direct conflict with the JFLCC's role as supported commander throughout his AO. The ARCENT commander could in no way accomplish his responsibilities in this portion of his AO with the given coordination requirements. While Lieutenant General Horner's requirement for mission-type orders for the air campaign seems reasonable, the land force commander must have the latitude to employ his own available fires capabilities within his own AO without undue coordination requirements. After all, joint doctrine clearly states that the FSCL is **permissive**.

This problem was compounded by Lieutenant General Horner's decision not to apportion BAI missions. His reasoning was that given the JFC's guidance, he could best decide which targets best served the joint force needs based on his available assets. Hence, those targets just beyond the FSCL, which would normally have been BAI, now were just part of the AI effort. Major General Larry Henry, a member of CENTCOM's theater air control center (TACC), explained the Air Force's position:

> The term BAI is offensive to us because we oppose subdividing the interdiction campaign into small packets, which would only weaken its overall impact and make it more difficult to plan

and execute from a theater perspective. That is why we always talk "interdiction" --- to encompass the total theater battle.[24]

While not popular with the ground force commanders, Lieutenant General Horner's logic ties in well with the concept of mission-type orders. He understood General Schwarzkopf's guidance and intent for the air campaign and needed the latitude to employ his assets in the most effective, efficient manner possible to achieve success. However, to a corps commander used to having his own dedicated BAI air sorties, this was a reduction in important resources, as well as a loss in the capability to shape his portion of the battlefield in preparation for future operations.

The second problem was in delineation of deep battle responsibilities between corps and ARCENT (EAC). Numerous times throughout operations, these two land component elements were duplicating effort by focusing on the same targets. This wasted resources and prevented optimization of capabilities. Early on in the operation, ARCENT implemented a Reconnaissance and Interdiction Planning Line (RIPL). This coordination measure is located between the FSCL and land component forward boundary, and serves as the dividing line between corps and EAC, in this case ARCENT, for deep operations planning.[25] The RIPL was placed at the limit of both the acquisition and attack ranges of organic systems within the corps. Short of the RIPL, the corps was responsible for acquiring and attacking targets, while ARCENT was responsibility for targeting beyond the RIPL.[26] The RIPL is, however, not a doctrinal coordination measure. It was an ad hoc fix to an immediate problem.

While this would appear to be an internal issue for the ground force commanders, it also affected the ground commanders' relationship with the JFACC. This was especially true in the case of VII Corps. Having trained exclusively in the NATO environment, VII Corps was used to the employment of a RIPL. However, in NATO, corps commanders were still allocated BAI sorties to employ between the FSCL and RIPL against their own prioritized targets. As stated

earlier, the JFACC Lieutenant General Horner reserved all AI sorties during Operation Desert Storm for his own targeting based on his understanding of the JFC's intent. Lieutenant General Frederick Franks, VII Corps commander during Desert Storm, explained the problem with this situation from a ground commander's perspective:

> What I was arguing for was I would like to determine the priority of targets they [JFACC assets] hit, since I had the mission for that area, not someone else. What you have emerging is that the JFACC will decide, could decide, through the joint targeting board, priority and numbers of targets struck beyond the FSCL. Now I don't think that is a satisfactory solution.[27]

The last problem to be discussed is the Army and Marines' dissatisfaction with the JFACC air campaign, in general. The Tait Report attributes this to CENTCOM's failure to exercise a single targeting authority for both lethal and nonlethal fires.[28] This resulted in the JFACC and ARCENT (de facto JFLCC) having competing priorities. And with the JFACC being responsible for producing the ATO, the land components perceived their targets were not being serviced equitably. They based this on number of targets submitted versus number of actual targets on the ATO. For example, while ARCENT was nominating around one hundred targets each day, they were only seeing ten to fifteen of these listed on the ATO. This problem was exacerbated by changing target priorities well into the ATO cycle.[29]

The length of the ATO cycle itself, did not allow for much flexibility in targeting. By being forced to submit targets to the JFACC 48 to 72 hours prior to execution, ground forces were unable to provide sufficiently accurate information of nominated targets, especially reference location of mobile Iraqi army units. Because of the inherent inaccuracy of providing "best guess prediction" locations, the JFACC gradually lost confidence in ground force target nominations.[30] Consequently, this lack of confidence, combined with Lieutenant General Horner's concept for AI, led to the ground force commanders' dissatisfaction with targets on the ATO. As explained in chapter one, this problem eventually led to Lieutenant General Calvin Waller being appointed as an

"honest broker" to ensure the targeting effort serviced all components' needs in accordance with the CINC's (JFC) guidance.

As stated earlier, joint operational fires played an important role in the U.S.-led Coalition's tremendous victory in the Gulf War. However, coordination problems were identified in this operation, with numerous lessons learned. A closer look at the coordination requirements in three major theaters for the U.S.: southwest Asia, Korea, and Europe will now be taken.

CENTCOM. CENTCOM's command relationship structure published in CENTCOM 525-1, Warfighting Instructions, is very similar to that employed during Operation Desert Storm. In a major conflict, the CINC will serve as the JFC. He will also again serve as the JFLCC. However, unlike before, the CINC will now normally designate a deputy JFLCC (DJFLCC). This DJFLCC will usually be the ground force commander with the preponderance of forces in theater and is to "coordinate and synchronize the operational and tactical levels of war affecting land forces."[31]

The CINC will also normally designate a JFACC, again usually the air component commander with the preponderance of air forces in theater. The JFACC is responsible for planning, coordinating, allocating, and tasking of joint air operations based on the CINC's (JFC's) guidance and apportionment decision.

The CINCCENT's principle forum for providing guidance to his functional and component commanders is the JTCB. This JTCB is chaired by the deputy CINC (DCINC). The role of the JTCB in CENTCOM is very much as described in JP 3.0, to provide a macrolevel review of targeting guidance and priorities. However, there is one other facet that is important to note. During a CENTCOM JTCB, each functional component is provided the opportunity to brief current and planned future operations. Part of this brief is to identify requirements and resources needed from other components.[32]

The DJFLCC has the responsibility to provide the JFACC mission orders for how he can best support ground operations. Examples of these mission orders are: "Delay the XX Division above PL Red for 48 hours. Prevent the YY Division from crossing the Running River. Destroy the ZZ Division's rocket artillery to facilitate the friendly counterattack."[33] While this does not nullify the need to nominate targets during the ATO cycle, it provides the JFACC a clear picture of the DJFLCC's visualization of the campaign, and enables him to shape the battlefield more effectively to support ground operations.

As for the FSCL, the DJFLCC recommends its location, as well as proposed changes. However, the JFC retains approval authority. Coordination of fires within the CENTCOM theater is not in accordance with joint doctrine. As stated, "Coordination of fires short of the FSCL is the responsibility of the DJFLCC. All indirect fires over the FSCL will be cleared, *100% of the time* (emphasis mine), through the tactical air control system."[34] This implies that the FSCL is restrictive as applied to ground forces. Also, with no mention made of direct fires employed by air forces, the CENTCOM FSCL appears to be permissive with respect to the JFACC. In essence, CENTCOM has increased the land forces' coordination requirements from coordinating with all affected commanders to always "clearing" through the JFACC. CENTCOM defines clearing as informing the JFACC prior to executing the fires, and allowing sufficient time for the JFACC to ensure all friendly air forces are out of the affected area.[35]

In reviewing CENTCOM's coordination requirements for employing joint fires beyond the FSCL, two key points are worth mentioning. First, the notion of the DJFLCC providing mission-type orders to the JFACC at the JTCB is very effective. It ensures the JFACC understands his requirements in helping to shape the battlefield to support the DJFLCC's planned operations in a much more efficient manner than by just nominating one hundred targets into the ATO process. It also provides the JFC a chance to task other components' to help achieve the DJFLCC's desired

effects. This process directly supports achievement of synergistic effects throughout the battlefield by ensuring synchronization of functional component operations.

The second point to note is that the JFC places a cumbersome coordination requirement in excess of that specified in joint doctrine on the DJFLCC to clear all indirect fires beyond the FSCL. This places an unnecessary burden on the DJFLCC that restricts him from employing organic assets within his own boundaries. The effect of this burden is a negative impact on anticipation, and simultaneity and depth.

Anticipation is affected because the JFLCC is not able to fully exploit opportunities as they arise. The modern battlefield demands rapid responses to changing situations due to the dynamic nature of conflict. The CENTCOM requirement to clear all indirect fires beyond the FSCL with the JFACC hampers this rapid response.

Simultaneity and depth are affected because the coordination requirement implies the area beyond the FSCL is the JFACC's AO. In fact, as stated earlier, the area between the FSCL and forward boundary are shared battle space between the JFACC and JFLCC, with both functional components having the requirement and resources to employ fires into this area. Therefore, the coordination requirements as approved in joint doctrine would better recognize this shared battlespace and satisfy the JFC's responsibilities in reducing the possibility of fratricide.

CFC-Korea. The foundation document for understanding the employment of fires beyond the FSCL in Korea is Deep Operations Primer--Korea, dated 27 February 1995. In its preface, it states that the commander-in-chief, CFC (CINCCFC) has designated the Commander, Air Component Command (CACC, hereafter referred to as JFACC), as his authority for synchronizing and integrating deep operations.[36] This publication defines deep operations as "operations extending from the FSCL to the horizontal overland boundaries of the theater and vertically into space."[37] Command relationships for deep operations are shown in Figure 2:

	FEBA TO FSCL	FSCL TO DBSL	DBSL AND BEYOND
SUPPORTED CDR	JFLCC	JFLCC	JFACC
PLANNING RESPONSIBILITY	JFLCC	JFLCC	JFACC
CONTROLLING AUTHORITY	JFLCC	N/A	JFACC
COORDINATING AUTHORITY	JFLCC	JFACC	JFACC
TARGETING RESPONSIBILITY	JFLCC	ALL	ALL

Figure 2. CFC-Korea Command Relationships. Source: Combined Forces Command-Korea, Deep Operations Primer—Korea, (Seoul, South Korea: Combined Forces Command-Korea, Operations Division, 1995), 9.

The CFC-K uses a Deep Battle Synchronization Line (DBSL) as an additional coordination measure in deep operations. The DBSL, in effect, equates to the JFLCC's forward boundary.[38] The JFLCC is the supported commander out to the DBSL (forward boundary), just as described in joint doctrine. However, the JFACC is designated the coordinating authority for all fires beyond the FSCL. The JFLCC's responsibility to the JFACC to employ fires within this region of the battlefield is spelled out as follows:

> Inform JFACC - the Coordinating Authority - of organic fires against emerging targets between the FSCL and DBSL (forward boundary) in sufficient time to allow necessary coordination to avoid fratricide, both in the air and on the ground. This applies to fires of all weapons systems using any type of ammunition against surface targets.[39]

This process CFC-K employs is very similar to the coordination requirements for employing fires beyond the FSCL dictated in JP 3.0. In essence, all functional components are provided the latitude to employ fires throughout the depth of the battlefield, with some coordination requirements to prevent duplication and fratricide. However, two particular aspects of CFC-K deep fires' coordination make its process unique. These aspects are the dynamic nature of the DBSL and the use of a Combined Targeting Board.

As stated earlier, the DBSL equates to the JFLCC's forward boundary. However, the DBSL is normally only placed 40 to 50 kilometers forward of the forward line of own troops (FLOT).[40] This is very shallow when considering the ground component capabilities, such as attack helicopters and ATACMS, to strike more than 100 kilometers beyond the FLOT. Therefore, the JFLCC must depend on the JFACC to attack those targets beyond the DBSL which affect the future concept of operations. This narrow AO scope for the JFLCC is alleviated somewhat by the dynamic nature of the DBSL. The CFC-K process recognizes that the DBSL may be changed on a very routine basis. In fact, the CFC-K Operations Division must provide updates on the location of the DBSL to the component commanders every six hours.[41]

The end result of using a shallow DBSL as a forward boundary is to degrade the concept of simultaneity and depth. The JFLCC is onl;y allowed to employ fires 40 to 50 kilometers beyond the FLOT. This is in spite of the fact that he has capabilities which allow him to more than double that depth. Therefore, the JFLCC's direct influence on deep operations, other than through target nominations into the ATO cycle, is limited.

The second aspect of CFC-K's process to be briefly discussed is its use of a Combined Targeting Board (CTB). The CTB is somewhat analagous to the JTCB, with one major difference.

This difference is that it is a full-time, 24-hour operational board which supports the JFACC in his role as executive agent for deep operations.[42]

The CTB has six subordinate cells. The Executive Board is the senior cell, and is responsible for providing oversight to the synchronization and integration process. This board meets daily and includes senior representatives from all components. It accomplishes the same macrolevel tasks as identified earlier for a JTCB.

The other five cells are the Synchronization Cell, the Advisory Cell, the Combined Targeting Cell, the Combined Planning Cell, and the Combined Execution Cell. Each of these have representation from all components and accomplish all tasks required to ensure the JFACC's targeting plan support the JFC's (CINCCFC's) overall strategy.

The effect of the CTB is a functional component (including the JFLCC) representation throughout the targeting process. This ensures the JFACC, as the deep operations coordinating authority, is synchronizing the employment of deep fires to support the JFC's campaign plan, which include the JFLCC's ground concept of operations. The overall effect is unity of effort in deep operations.

CINCCFC's employment of the CTB facilitates both synergy and timing and tempo. The CTB ensures the effects of fires beyond the FSCL are synchronized to achieve maximum effects to gain the desired endstate. The full-time nature of this board also allows CINCCFC to vary the tempo of operations to fully exploit friendly capabilities, while denying the enemy freedom of action. While joint staffs can usually provide a JFC some of these same capabilities, the involvement of full-time component representatives ensure synergy and tempo throughout the command are in accordance with the JFC's intent.

NATO. U.S. forces play a key and vital role in the North Atlantic Treaty Organization (NATO). The combined forces of NATO have been training together for fifty years and have

established TTP for combat operations. ATP -27 (C), Offensive Air Support Operations, provides a good discussion of coordination procedures for employing joint fires beyond the FSCL.

NATO, while a combined organization, defines the FSCL identical to U.S. joint doctrine. It is a permissive measure "used to synchronize operations on either side of the FSCL , and is the responsibility of the establishing commander out to the limits of the land force boundary."[43] The FSCL exists in NATO, then, as a coordinating measure, not a control measure, and facilitates all components employing fires beyond it.

While the doctrinal use of the FSCL portrays NATO as using a system very similar to US joint doctrine, NATO actually differs significantly through its use of offensive air support. Offensive air support consists BAI and CAS, which are conducted in direct support of land operations.[44] While CAS is conducted almost exclusively short of the FSCL, BAI is conducted both short of and beyond the FSCL, and is therefore relevant to this thesis.

The aim of OAS, and hence BAI, is to "conduct jointly planned and coordinated air operations against those targets which will directly affect the course of the land battle."[45] BAI is carried out within the JFLCC's AO, and services his prescribed targets. An important note here is that NATO Central Army Group (CENTAG), which includes the US V Corps, employs a RIPL as a coordination measure. This is important because the RIPL is used to define the battlespace in which to employ BAI.[46] This coordination measure is short of the land component forward boundary, and is the deepest point where the land force commander can employ BAI. Therefore, it is at the JFLCC's discretion as to which targets constitute BAI and which targets should be nominated into the ATO process for AI attack. This use of BAI by NATO supports the concepts of anticipation and timing and tempo, while detracting from synergy.

BAI allows the JFLCC to exploit unexpected opportunities, a tenet of anticipation. He, in effect, has his own air force on-call to respond to targets of opportunity. Also, the allocation of

BAI sorties enables the JFLCC to act faster than the enemy in response to changes on the battlefield. He is able to establish a tempo of operations throughout his AO that will support decisive defeat of the enemy.

The employment of BAI does, in fact, make the synchronization of air operations more difficult. This is due to the requirement of deconflicting BAI targets from AI targets beyond the FSCL. There are essentially two separate air forces attacking targets in common battlespace. This is a potentially inefficient method of employing fires. If BAI is to be effectively synchronized with the JFACC's effort, early and continuous coordination must be maintained between the JFLCC and the JFACC to ensure no duplication of effort, and the desired effects are achieved.

"Out of the Box" Solutions. During research for this thesis, numerous previous works which recommended elimination of the FSCL in favor of an alternative coordination measure were discovered. While these measures were proposed under numerous names, many were very similar as far as coordination requirements for employment of fires. Four of these "out of the box" solutions merit consideration for further analysis. These four solutions are the Air Ground Coordination Line, the Operational Interdiction Line/Tactical Interdiction Line, the Fire Coordination Line, concurrent space sharing.

AGCL. Major Barry in his US Army School of Advanced Military Studies (SAMS) monograph recommends replacing the FSCL with an AGCL. The definition of the the AGCL would read:

> A temporary line established by the JFC within the land component commander's AO used to delineate the responsibility for the planning, coordination, synchronization, and control of all maneuver, fires, and interdiction. Short of the AGCL the JFLCC will have the responsibility for maneuver, fires, and interdiction. Beyond the AGCL the JFACC will have these same responsibilities. Components will not conduct any operations outside their respective areas (i.e., beyond the AGCL for the JFLCC) without the permission of the affected commander. The JFC will not direct any operations into these areas without first advising the respective component commanders. The AGCL will only be moved by the JFC after consulting with the JFLCC and JFACC.[47]

This coordination measure assigns definitive areas of responsibility to the JFACC and JFLCC, while deconflicting battlespace. This would facilitate unity of command and unity of effort. Also, the temporary nature of the AGCL would allow the JFC to make required changes based on the dynamic flow of operations.

In analysis, though, the AGCL acts as a de facto boundary. The AGCL in effect replaces the land component forward boundary since the JFLCC no longer has any planning, coordination, synchronization, or control of operations beyond the AGCL. This "stone wall" separation between JFACC and JFLCC operations violates the tenet of synergy. This control measure places an heavy burden on the JFC and his staff to ensure the effects of JFACC and JFLCC fires are synchronized to attain the desired effects. This seems an undue price to pay to gain the benefit of reducing coordination required in joint battlespace.

Operational Interdiction Line (OIL)/Tactical Interdiction Line (TIL). Major Jauron suggested a different approach. His method includes use of two control measures to replace the FSCL. These measures are the OIL and the TIL. The OIL is established by the JFC to enlarge the JFACC's permissive area. Between the OIL and land component forward boundary, the JFACC is the coordinating authority. The TIL is established by the JFLCC and is located between the FLOT and the OIL. The JFACC is the coordinating authority between the TIL and OIL, but must employ fires in accordance with the establishing commander (JFLCC).[48]

This methodology is very similar to that used in NATO (CENTAG). The fires employed by the JFACC between the TIL and OIL correspond to BAI, with the OIL serving the same function as a RIPL. The difference between this method and NATO (CENTAG) is that the JFLCC **must** coordinate with the JFACC to engage targets beyond the TIL. With the FSCL in current doctrine, coordination must be made to the maximum extent possible, but is not an absolute must. This additional coordination requirement on the JFLCC could serve to disrupt the timing

and tempo of his operations. It also may violate the tenet of Anticipation since the JFLCC may be unable to fully exploit opportunities that arise on this portion of the battlefield.

Fire Control Line (FCL). Major Lanza offers a third approach in his monograph. His proposal is to replace the FSCL with an FCL. This measure would be established by the appropriate ground commander and would allow the JFACC to control fires beyond the FCL with two optional restrictions by the JFLCC. The first restriction that could be employed is that the targets must be preapproved by the JFLCC. The second restriction available is JFLCC approval of munitions employed between the FCL and forward boundary.[49]

At a glance, this proposed methodology has two attractive characteristics. First, the JFLCC maintains some influence over the fires employed throughout his entire AO. He can compel other functional components, primarily the JFACC, to employ fires in accordance with his guidance. The second attractive characteristic is this method enables the JFACC to employ his capabilities within the land component AO with minimal coordination. As long as he abides by the JFLCC's restrictions, if opted for, the FCL is permissive for JFACC operations.

There are two shortcomings to note in employing an FCL. First, just as with the OIL/TIL, the JFLCC cedes absolute coordination authority to the JFACC for fires beyond the FCL. As stated earlier, this carries with it the potential for disrupting his timing and tempo, as well as preventing the JFLCC from exploiting opportunities that arise (anticipation). The second shortcoming is that this method may hamper the JFACC in employment of fires against targets which support either the JFC or a component other than the JFLCC. This could be the case should the first restriction discussed above be opted for by the JFLCC. While this problem could be fixed through coordination, it may prevent timeliness of desired effects on targets.

Concurrent Space Sharing. Lieutenant Commander McEligot takes a very different approach in his analysis of the problem. He contends that there are two facets of deep battle,

deconfliction and force application. To facilitate these facets, a cooperative organizational architecture is required.[50] Lieutenant Commander McEligot discusses two methods to accomplish this. The first method is "time sharing." In time sharing, the JFC would assign control of fires beyond the FSCL to the functional components based on whose interests is greater for a specified period of time. However, as McEligot himself points out, this method is inefficient since it would require redundant control capabilities between the components.[51] It could also lead to confusion in coordinating fires since the JFC's assignment of control of fires beyond the FSCL would be dynamic based on battlefield developments.

The second method which McEligot discusses and recommends is "space sharing." In this method, both the forward line of own troops (FLOT) and the FSCL would be non-linear to more accurately reflect troop locations and JFLCC indirect fire capabilities. Additionally, the JFC would assign "islands" of control to components based on planned operations.[52] To ensure coordinated operations, the JFACC would continue to publish an ATO, while the JFLCC would gain the responsibility of producing a ground control order (GCO). This GCO would discuss commander's intent and designate procedures for operating beyond the FSCL.[53] Once produced, the GCO would be sent to the JFACC for deconfliction with the air scheme of maneuver. McEligot proposes this architecture would facilitate force application beyond the FSCL for all components, while providing deconfliction to prevent fratricide and duplication of effort.

Analysis of the concept of space sharing leads to some positive conclusions with reference to synergy. After all, this method enables all components to employs fires beyond the FSCL. It also ensures these fires are synchronized through the ATO-GCO comparison. Simultaneity and depth are also facilitated through this method. Both the JFACC and JFLCC, as well as the other components, are able to operate throughout the depth of the battlefield simultaneously with both fires and maneuver. However, when considering anticipation, this concept falls short.

Space sharing requires very detailed planning to ensure deconfliction of operations. However, with the nature of today's battlefield being very dynamic with unexpected opportunities presenting themselves at a moment's notice, all components must be able to exploit these opportunities with minimal coordination. This method does not allow for spur-of-the-moment coordination, an absolute requirement for the current nature of combat operations.

Effects of Digitization. The trend toward digitization of military capabilities may have a profound impact on the way the U.S. military fights future conflicts. The rapid exchange of battlefield information will affect a commander's ability to make decisions, as well as battlefield processes. The results of digitization on battle command, battlespace, and deep operations will be briefly discussed.

Battle command is the art of decision making and leadership to motivate soldiers to accomplish missions at the least cost possible.[54] During combat operations, the commander is challenged by the confusion, fog, and friction by the chaotic environment of the battlefield. Digitization should help reduce this chaos. Systems are being designed which will provide the commander near-perfect knowledge about where his friendly forces are, as well as the location and disposition of enemy forces. In other words, the commander will have much-improved situational awareness. This should result in his ability to make more-informed, timely decisions leading to a higher degree of success in battle.[55]

Digitization should also result in increased battlespace for commanders. This is because future joint weapon systems and intelligence platforms will enable acquisition and engagement of enemy forces at much greater ranges than currently possible. Commanders must therefore expand their visualization of how forces will interact over time to optimize effects of fires and maneuver throughout the depth of the battlefield.[56] The effect on joint operations is more shared battlespace between subordinate functional component commanders, especially the JFACC and JFLCC.

This extended battlespace will increase opportunities for simultaneous attacks by joint forces throughout the depth of the battlefield. With better situational awareness of where the enemy is, the friendly force commander can employ long-range systems, both lethal and nonlethal, to achieve the desired effects. Thus, digitization allows him to create and maintain a tempo of operations through simultaneity and depth to which the enemy commander cannot react.[57]

In analyzing these effects of digization, two conclusions which support retention of the FSCL can be drawn. First, the inproved capabilities and corresponding increase in shared battlespace will make it more important than ever to coordinate operations beyond the close fight. With the JFLCC's battlespace increasing in depth, it is absolutely essential that he coordinate with the JFACC to ensure no duplication of effort. Also, these commanders must still ensure operations are synchronized to produce the desired effects.

The second conclusion is that the risk of fratricide will remain. Though commanders will have better situational awareness, the increase in fires employed at depths beyond the close fight will create conditions for friendly fire incidents. Therefore, significant efforts will still be required to deconflict fires and their effects. The FSCL is currently used effectively to assist in this task and can in future digitized operations, also.

This discussion of the impact of digization on use of the FSCL is purposefully brief due to the lack of institutional experience publications on the subject. However, it must be mentioned since information-based operations are being touted as the next military breakthrough. To gain a better understanding of the effects of digitization on this subject, further research is required once digitized systems are fielded and used in joint exercises, as well as actual operations.

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[1]US Department of Defense, JP 3-0, Doctrine for Joint Operations (Washington, DC: Office of Joint Chiefs of Staff, 1995), II-5.

[2]This assertion based upon CENTCOM 525-5, CFC-K Deep Operations Primer, and NATO ATP-27C.

[3]US Army, FM 6-20-1, Field Artillery Tactics (Washington, DC: Department of the Army, 1961), 30-31.

[4]US Army, FM 6-20, Fire Support (Washington, DC: Department of the Army, 1948), 98.

[5]US Army, FM 6-20, Fire Support in Airland Battle (Washington, DC: Department of the Army, 1988), 3-6.

[6]JP 3-0, III-34.

[7]US Department of Defense, JP 1-02, Department of Defense Dictionary of Military and Associated Terms (Washington, DC: Office of Joint Chiefs of Staff, 1994), 3-90.

[8]This assertion is based upon my experiences as a Deep Operations planner at Third United States Army in 1995-1996. In this position, I participated in numerous CENTCOM joint exercises.

[9]US Army, FM 100-7, Decisive Force: The Army in Theater Operations (Washington, DC: Department of the Army, 1995), 5-9.

[10]This assertion is based upon my experiences as a Deep Operations planner at Third United States Army in 1995-1996. In this position, I participated in numerous CENTCOM joint exercises.

[11]Ibid.

[12]JP 1-02, 3-90.

[13]Ibid., 93.

[14]This is a quote from the joint message dated 172201Z Dec 96 issued by GEN Dennis Reimer (CSA) and GEN Ronald Fogleman (CSAF) following the Army-Air Warfighter Conference held at Fort Bliss, Texas. The majority of the Army and Air Force senior leadership attended this conference.

[15]JP 3-0, IV-15.

[16]Ibid., III-26.

[17]JP 1-02, 31.

[18]This assertion is based upon my experiences as a Deep Operations planner at Third United States Army in 1995-1996. In this position, I participated in numerous CENTCOM joint exercises.

[19]This information was extracted from the "Tait Report," a Desert Shield/Desert Storm After Action Report prepared by a special study group. It is called the Tait Report after MG Thomas Tait, who headed the special study group.

[20]This assertion is based upon my experiences as a Deep Operations planner at Third United States Army in 1995-1996. In this position, I participated in numerous CENTCOM joint exercises, and participated in numerous discussions regarding the command relationships used in Desert Shield/Desert Storm.

[21]Ibid.

[22]VII Corps Desert Storm Fires AAR, cited in Zook, 145.

[23]Tait Report.

[24]Comment by MG Larry L. Henry, who served in the planning cell of CENTCOM's TACC, during an interview by MAJ C. William Robinson, cited in Robinson, 17.

[25]This definition is based on discussions with other officers in ARCENT during my duty as a deep operations planner there in 1995-1996.

[26]Tait Report.

[27]Robinson, 44.

[28]Tait Report.

[29]Ibid.

[30]Comment by GEN Frederick Franks, who served as VII Corps commander during Operation Desert Shield/Desert Storm, during an interview by MAJ C. William Robinson, cited in Robinson, 18.

[31]US Central Command, CENTCOM Reg 525-1, Warfighting Instructions (McDill AFB, Florida: US Central Command Operations Division, 1996) II-1.

[32]This assertion is based upon my experiences at Third United States Army in 1995-1996. In this position, I participated in numerous CENTCOM joint exercises, and attended all JTCB sessions, initially as an aide-de-camp, and then as a deep operations planner. The most recent exercise attended was Internal Look 1996.

[33]Ibid.

[34]CENTCOM Reg 525-5, III-1.

[35]This definition was provided by COL Donald Olson, former CENTCOM Chief of Contingency Planning, and currently Director, Department of Joint and Combined Operations, US Army Command and General Staff College.

[36]Combined Forces Command-Korea, Deep Operations Primer--Korea, (Seoul, South Korea: Combined Forces Command-Korea, Operations Division, 1995) 1.

[37]Ibid., 3.

[38]Ibid, 9.

[39]Ibid, 14.

[40]Ibid, 28

[41]Ibid, 28.

[42]Ibid, 17.

[43]NATO, ATP-27C, Offensive Air Operations (Brussels, Belgium: NATO Hqs, 1995) 2-6 - 2-7.

[44]Ibid, 1-1.

[45]Ibid.

[46]Robinson, 44.

[47]MAJ Robert F. Barry II, USA, "Who's Zooming Who? Joint Doctrine and the Army-Air Force Debate Over the FSCL" (Monograph, CGSC, SAMS, 1994) 38-39.

[48]MAJ Lester C. Jauron, USA, "The Fire Support Coordination Line: Should It Delineate Area Responsibilities Between Air and Ground Commanders?" (Monograph, CGSC, SAMS, 1993) 31-32.

[49]MAJ Steven R. Lanza, USA, "Permissive or Restrictive: Is There a Need for a Paradigm Shift in the Operational Use of the Fire Support Coordination Line?" (Monograph, CGSC, SAMS, 1994) 111-112.

[50]LtCdr Kim McEligot, USN, "Beyond the Fire Support Coordination Line...Controlling Chaos in the Deep Battlefield," (Monograph, Naval War College, 1995) 3, 10.

[51]Ibid, 9.

[52]Ibid, 11.

[53]Ibid, 12.

[54]US Army, TRADOC Pamphlet 525-5, Force XXI Operations (Washington, DC: Department of the Army, 1994) 3-3.

[55]Ibid, 3-3 - 3-4.

[56]Ibid, 3-7.

[57]Ibid, 3-10.

CHAPTER FIVE

CONCLUSIONS

> Air and ground commanders must be constantly on the alert to devise, and use, new methods of cooperation. There can never be too many projectiles in a battle. Whether they are thrown by cannon, rockets, or recoilless devices is immaterial. The purpose of all these instruments is identical--namely, to deluge the enemy with fire. Nor is it necessary that these projectiles be discharged on the ground.[1]
>
> General Dennis Reimer and General Ronald Fogleman
> Joint message from Army-Air Force 17 Dec 96

Joint doctrine is intended to provide the JFC with the latitude necessary to be successful in all types of operations, and with a wide variance of force structures. This latitude is included in the coordination and employment of joint fires. In researching this thesis, the conclusion that joint doctrine is "about right" has been drawn. In other words, current joint doctrine provides the JFC the necessary guidance to successfully joint fires beyond the FSCL.

However, this research has also brought to some recommendations which would aid in the employment of joint fires. These recommendations are essentially TTPs which, if applied, would serve to reduce friction, primarily between the JFACC and JFLCC. It is important to note that these TTP are within the realm of current joint doctrine, and do not require changes to published publications.

Recommendation One. The FSCL must be treated as a permissive measure, with coordination requirements being those agreed upon recently by the Army and Air Force Chiefs of Staff. These coordination requirements are as follows: "all targets forward of the FSCL and inside

the SCC's (surface component commander) area of operations will be coordinated with all affected commanders to the maximum extent possible." And, as JP 3.09 states, in exceptional circumstances, the inability to coordinate will not preclude the use of fires beyond the FSCL.[2]

By applying these coordination requirements, the JFC allows all subordinate components, to include the JFLCC and JFACC, to employ fires in this critical region of the battlefield. The JFLCC, as the supported commander, must have this ability since he must shape the battlefield for the future ground close fight. The JFACC normally has the preponderance of fires capabilities in this region, and therefore must not "have his hands tied" during execution.

Recommendation Two. The JFACC should be the coordinating authority for fires between the FSCL and forward boundary. As stated earlier, the JFACC has the preponderance of capabilities to employ fires beyond the FSCL. Additionally, he normally has the most forces physically employed beyond the FSCL. Therefore, he is best able to focus his attentions on this portion of the battlefield, with the aim of deconflicting targets and ensuring no deplication of effort by multiple components. While the JFLCC is the supported commander, he must maintain a primary focus on the close fight, while simultaneously looking at how best to shape the future ground fight. The JFLCC must trust the JFACC to coordinate the efforts beyond the FSCL in accordance with JFC and JFLCC guidance.

Recommendation Three. The JFLCC should provide the JFACC mission-type orders, in addition to target nominations in support of deep operations. The JFACC is an airman. And only an airman can be expected to maximum the employment of fires, primarily delivered by strike aircraft, to produce the desired effects. By receiving mission-type orders, the JFACC can plan his operations to achieve the JFLCC's desired effects, while not necessarily striking all the JFLCC's nominated targets. This is especially critical in an era of a shrinking force structure, with associated decreased resources.

Recommendation Four. The JFC should enforce the functional components' freedom of action in engaging time critical targets (TCT) with minimal coordination. Though the discussion of FSCL in JP 3-0 states that that in exceptional cases components have this latitude[3], some commands as discussed in chapter four restrict this action. A potential method of solving this problem is to establish a formal TCT list during the operation. When finding a TCT, components can engage the target after **informing** all other affected commanders. The key here is that the requirement would be to inform, and not coordinate. However, using a TCT list would actually restrict the component commanders' actions. This is due to the possibility of targets appearing on the battlefield which necessitate immediate employment of fires, but which are not on the TCT list. The bottom line here is that the JFC should not apply constraints beyond the coordination requirements in current joint doctrine.

Final Word. The United States military is making tremendous strides in operating as a joint force. The services all understand the synergistic effects achieved by synchronizing the operations of each throughout the depth of the battlefield. However, there is still apparently one ingredient which has not been fully added to the recipe. That ingredient is trust.

In this research, many occasions were found where soldiers did not trust airmen to employ fires against targets which affected the ground concept of operations. There were occasions as well where airmen did not trust soldiers to establish an FSCL which provided the airmen freedom to optimize the effects of air operations. The trust between services necessary to overcome these perceptions can only be gained through continuous joint exercises and operations requiring the members of the joint force to work together toward common objectives. Fortunately, the US military, while in a tumultuous period of decreasing resources and force structure cuts, has established and maintains a robust joint exercise schedule which will eventually solve the issue of

trust. General Colin Powell, then CJCS, got at the heart of the issue of trust and teamwork with the following words:

> Joint Warfare is Team Warfare
>
> When a team takes to the field, individual specialists come together to achieve a team win. All players try to do their very best because every other player, the team, and the home town are counting on them to win. So it is when the Armed Forces of the United States go to war. We must win every time. Every soldier must take the battlefield believing his or her unit is the best in the world. Every pilot must take off believing there is no one better in the sky. Every sailor standing watch must believe there is no better ship at sea. Every Marine must hit the beach believing that there are no better infantrymen in the world. But they all must also believe that they are part of a team, a joint team, that fights together to win. This is our history, this is our tradition, this is our future.[3]

General Powell's words strike at the heart of the objective in joint operations. The US military must function as one team, with all operations synchronized to achieve synergistic effects. The recommendations found in researching this thesis will help to achieve this desired effect, and contribute to successful joint operations.

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[1]This is a quote from the joint message dated 172201Z Dec 96 issued by GEN Dennis Reimer (CSA) and GEN Ronald Fogleman (CSAF) following the Army-Air Warfighter Conference held at Fort Bliss, Texas. The majority of the Army and Air Force senior leadership attended this conference.

[2]US Department of Defense, JP 3-09, Doctrine for Joint Fire Support (Washington, DC: Office of Joint Chiefs of Staff, 1996), C-6.

[3]US Department of Defense, JP 3-0, Doctrine for Joint Operations (Washington, DC: Office of Joint Chiefs of Staff, 1995), III-34, 35.

[4]US Department of Defense, JP 1, Joint Warfare of the U.S. Armed Forces (Washington, DC: Office of Joint Chiefs of Staff, 1991), Inside cover.

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